

This document provides pertinent information concerning the reissuance of the VPDES Permit listed below. This permit is being processed as a minor, industrial permit. The discharge results from the operation of a petroleum fuel storage/distribution center and an onsite groundwater remediation system. This permit action consists of updating the proposed effluent limits to reflect the current Virginia Water Quality Standards (effective 6 January 2011) and updating permit language as appropriate. The effluent limitations and special conditions contained within this permit will maintain the Water Quality Standards of 9VAC25-260 et seq.

1. Facility Name and Mailing Address: Motiva Enterprises LLC  
Fairfax Distribution Terminal  
3800 Pickett Road  
Fairfax, VA 22031  
SIC Code: 5171 Petroleum Bulk Stations & Terminals  
  
Facility Location: 3800 Pickett Road  
Fairfax, VA 22031  
City: Fairfax  
  
Facility Contact Name: Susan Horning / Terminal Manager  
Telephone Number: 703-550-9510  
Facility Email Address: [Susan.Horning@motivaent.com](mailto:Susan.Horning@motivaent.com)
2. Permit No.: VA0002283  
Expiration Date: 15 April 2013  
Other VPDES Permits: Not Applicable  
Other Permits: Registration No. 70248 – Air  
ID 3001247 – Petroleum tank  
Poll Comp Number 20123119 – Remediation  
E2/E3/E4 Status: Not Applicable
3. Owner Name: Motiva Enterprises LLC  
Owner Contact / Title: Susan Horning / Terminal Manager  
Telephone Number: 703-550-9510  
Owner Email Address: [Susan.Horning@motivaent.com](mailto:Susan.Horning@motivaent.com)
4. Application Complete Date: 15 October 2012  
Permit Drafted By: Douglas Frasier  
Date Drafted: 18 April 2013  
Draft Permit Reviewed By: Alison Thompson  
Date Reviewed: 30 April 2013  
WPM Review By: Bryant Thomas  
Date Reviewed: 7 May 2013  
Public Comment Period: Start Date: TBD 2013  
End Date: TBD 2013
5. Receiving Waters Information:  
Receiving Stream Name: Crook Branch  
Stream Code: 1aCRK  
Drainage Area at Outfall: < 0.1 square mile  
River Mile: 2.1  
Stream Basin: Potomac River  
Subbasin: None  
Section: 7  
Stream Class: III  
Special Standards: b  
Waterbody ID: VAN-A15R  
7Q10 Low Flow: 0.0 MGD\*  
7Q10 High Flow: Not Applicable\*\*  
1Q10 Low Flow: 0.0 MGD\*  
1Q10 High Flow: Not Applicable\*\*  
30Q10 Low Flow: 0.0 MGD\*  
30Q10 High Flow: Not Applicable\*\*  
Harmonic Mean Flow: 0.0 MGD\*  
30Q5 Flow: Not Applicable\*\*

\*Due to the small (<1 sq. mile) drainage area at the Outfall, it is staff's best professional judgement that the critical flows of the receiving stream would be zero.

\*\*The flow within the receiving stream would be highly variable during a wet weather event; dependent upon the previous precipitation event, amount/type of precipitation and longevity of the event. A mixing zone determination is not feasible.

6. Statutory or Regulatory Basis for Special Conditions and Effluent Limitations:

- |   |   |
|---|---|
| <input checked="" type="checkbox"/> State Water Control Law | <input type="checkbox"/> EPA Guidelines                     |
| <input checked="" type="checkbox"/> Clean Water Act         | <input checked="" type="checkbox"/> Water Quality Standards |

- |   |   |
|---|---|
| <input checked="" type="checkbox"/> VPDES Permit Regulation | <input checked="" type="checkbox"/> Other: 9VAC25-120 et seq. / 9VAC25-151 et seq.  |
| <input checked="" type="checkbox"/> EPA NPDES Regulation    | ➤ General VPDES Permit Regulation for Discharges from Petroleum Contaminated Sites, Groundwater Remediation and Hydrostatic Tests |
|   | ➤ VPDES General Permit for Storm Water Discharges Associated with Industrial Activity   |

7. **Licensed Operator Requirements:** Not Applicable

8. **Reliability Class:** Not Applicable

9. **Permit Characterization:**

- |   |  |   |
|---|--|---|
| <input checked="" type="checkbox"/> Private | <input type="checkbox"/> Effluent Limited                            | <input type="checkbox"/> Possible Interstate Effect       |
| <input type="checkbox"/> Federal            | <input checked="" type="checkbox"/> Water Quality Limited            | <input type="checkbox"/> Compliance Schedule Required     |
| <input type="checkbox"/> State              | <input checked="" type="checkbox"/> Whole Effluent Toxicity Required | <input type="checkbox"/> Interim Limits in Permit         |
| <input type="checkbox"/> WTP                | <input type="checkbox"/> Pretreatment Program Required               | <input type="checkbox"/> Interim Limits in Other Document |
| <input type="checkbox"/> TMDL               |  |   |

10. **Wastewater Sources and Treatment Description:**

The Motiva Enterprises Fairfax Distribution Terminal is a petroleum fuel storage and distribution facility. Fuel products are received via the Colonial Pipeline, stored and distributed by truck to offsite retail stations. The volume of petroleum products distributed in 2011 was 266 million gallons of gasoline, 148 million gallons of petroleum distillates and 29 million gallons of ethanol, per the application package.

*Outfall 001*

Stormwater runoff from the fuel loading area and the bulk oil storage area is routed through two parallel oil/water separators (OWS) and then into a 400,000 gallon retention pond. The retention pond discharge is designated as Outfall 001 with a design average flow of 0.058 Million Gallons per Day (MGD) as provided in the application.

Loading Area: The covered truck loading area is bermed with surface drains for spill containment. Any spillage and runoff from this area is routed to a baffled 10,000 gallon relaxer tank, allowing large product flows to slow prior to being pumped to the 2,000 gallon upper OWS located south of the loading area.

Reclaim Tank: West of the truck loading area is a 500 gallon aboveground storage tank which receives product from sample testing. Material from the tank is manually pumped back into the storage tank containing the lowest grade product.

Storage Tanks and Berm: The nine main storage tanks are contained within a berm, which is designed to contain up to 125% of the largest storage tank volume. Stormwater impounded within the berm collects in a concrete collection sump and is manually pumped out through the lower 2,000 gallon OWS located on the south side of the tanks. From this OWS, the water is discharged into the pond and the separated fuel product is hauled offsite by a licensed contractor for disposal/reuse. The bermed tank/storage area does not have a synthetic liner, but does have a compacted earth and gravel bottom. Tank bottom waters are collected in a storage container for offsite contractor disposal. Bottom waters are removed when they reach three inches in the bottom of the storage tank, usually once a year.

Pond: The retention pond is lined with a Griffolyn Type 75 liner and stores rainwater from the aboveground storage tank containment area. During rain events, water collects inside the containment area which is manually pumped into the lower OWS. The water then flows to the pond, which has a storage capacity of about 400,000 gallons. When additional storage capacity is needed, the discharge valve is manually opened after sampling and the pond is drained approximately half way.

Fuel Additives: Near the front of the property, south of the loading area, are the fuel additives. Volumes and types are included in Section 13 of this fact sheet. Most tanks are single walled and all are positioned within a valved concrete containment area. The red dye tank also has an attached containment curtain. The valve is normally left open except when products are being received. Any spill moving beyond this area would be stopped by the main secondary containment dike.

Effluent from Outfall 001 discharges into a concrete culvert, runs into an underground corrugated pipe, runs under Pickett Road and enters Crook Branch. There are two valves between the pond and the culvert and both must be open for a discharge to occur. Both valves are normally kept closed. A Kent Bubbler flow meter was installed to measure flows and to collect composite samples. Discharge cycles are usually around 24 hours but can last up to 72 hours if the pond is at capacity. Since the pond is primarily composed of stormwater runoff, the discharge is considered intermittent.

#### *Outfall 002*

There is an extensive groundwater recovery and treatment system in operation under EPA oversight. The groundwater treatment systems consist of phase separation, air stripping, carbon adsorption, greensand filtration and chemical addition of potassium permanganate (KMnO<sub>4</sub>) and gypsum. The discharge of treated groundwater is designated as Outfall 002.

Groundwater Treatment Units: There are three treatment units (TS1, TS2 and TS3) that handle the petroleum contaminated groundwater. The entire system is automated, alarmed and capable of running 24 hours a day. The backwash water is currently discharged to the sanitary sewer. Process control testing is conducted on influent, intermediate and effluent samples, with the data reported to DEQ along with the monthly DMRs. The air strippers are cleaned whenever benzene, toluene, ethylbenzene and xylene (BTEX) reductions are less than 85% or concentrations are greater than 10 mg/L for two consecutive samples.

The sampling point for Outfall 002 is located adjacent to the treatment units in a concrete vault. The discharge from Outfall 002 enters a 4 inch PVC gravity line, eventually converging with the retention pond discharge just below Outfall 001. A Plastifab Weir and flow bubbler system were installed at the vault to facilitate accurate flow measurements and composite sampling when necessary.

Motiva received approval from the City of Fairfax on 21 September 2012 to discharge effluent from the treatment system to the City of Fairfax sanitary sewer. Motiva has elected to retain Outfall 002 as a permitted discharge location in the event a discharge would be necessary.

#### *Outfall 003*

This outfall was included in previous permit terms and was designated for hydrostatic testing as needed. This facility has not conducted a test during the previous three permit terms but has maintained this outfall in case it was needed. This discharge would enter the same corrugated steel pipe downstream of Outfall 001.

The permittee has requested that this outfall be removed during this reissuance. If a test is required, the permittee will obtain coverage under *General VPDES Permit Regulation for Discharges from Petroleum Contaminated Sites, Groundwater Remediation and Hydrostatic Tests* (9VAC25-120).

#### *Non-Structural Controls*

These controls include daily visual inspection, spill prevention and control procedures, good housekeeping, preventive maintenance and employee training.

See **Attachment 1** for the NPDES Permit Rating Worksheet.

See **Attachment 2** for a facility schematic/diagram.

TABLE 1 OUTFALL DESCRIPTION				
Outfall Number	Discharge Sources	Treatment	Max 30-day Flow	Latitude / Longitude
001	Stormwater Associated with Industrial Activity	See Section 10 above.	0.048 MGD	38° 50' 45.9" / 77° 16' 29.3"
002	Treated Groundwater	See Section 10 above.	0.005 MGD	38° 50' 47.3" / 77° 16' 25.4"

See **Attachment 3** for the Fairfax topographic map.

#### **11. Solids Treatment and Disposal Methods:**

The facility does not generate nor treat domestic sewage sludge.

## 12. Discharges Located Within Waterbody VAN-A15R:

TABLE 2 IDENTIFIED DISCHARGES			
Permit Number	Facility Name	Type	Receiving Stream
VA0001872	Joint Basin Corporation	Stormwater Industrial Individual Permits	Daniels Run, UT
VA0001945	Kinder Morgan Southeast Terminals		Accotink Creek, UT
VA0001988	Kinder Morgan Southeast Terminals 2		Accotink Creek, UT
VAG110046	Virginia Concrete Company – Newington	Concrete Products General Permits	Accotink Creek, UT
VAG110069	Virginia Concrete Company – Mid Atlantic Materials		Accotink Creek, UT
VAR051080	US Army – Fort Belvoir	Stormwater Industrial General Permits	Accotink Creek
VAR051565	Rolling Frito Lay Sales LP		Accotink Creek
VAR051719	National Asphalt Paving Corporation		Accotink Creek
VAR051772	Fairfax County – DVS – Alban Maintenance Facility		Field Lark Branch
VAR051134	G and L Metals		Long Branch, UT
VAR051100	Shenandoah's Pride Dairy		Flag Run
VAR051863	United Parcel Service – Newington		Accotink Creek
VAR051770	Fairfax County – Jermantown Maintenance Facility		Accotink Creek, UT
VAR051047	Fairfax County – Connector Bus Yard		Long Branch
VAR051042	SICPA Securink Corporation		Accotink Creek
VAR051066	US Postal Service – Merrifield Vehicle Maintenance		Long Branch, UT
VAR051795	HD Supply – White Cap		Accotink Creek
VAG830400	US Army – Fort Belvoir	Petroleum/Remediation General Permit	Mason Run
VAG406519	Bardwell Residence	Single Family Home General Permit	Accotink Creek, UT

## 13. Material Storage:

TABLE 3 MATERIAL STORAGE		
Materials Description	Maximum Volume Stored	Spill/Stormwater Prevention Measures
Ultra-low Sulfur Diesel	1,769,246 gallon AST	Bermed Containment Area
Gasoline	1,770,632 gallon AST	Bermed Containment Area
Gasoline	1,280,909 gallon AST	Bermed Containment Area
Gasoline	1,280,909 gallon AST	Bermed Containment Area
Gasoline	1,370,309 gallon AST	Bermed Containment Area
Gasoline	2,788,447 gallon AST	Bermed Containment Area



TABLE 3 (continued)		
Materials Description	Maximum Volume Stored	Spill/Stormwater Prevention Measures
Gasoline	1,348,859 gallon AST	Bermed Containment Area
Gasoline	2,743,765 gallon AST	Bermed Containment Area
Ultra-low Sulfur Diesel	2,765,369 gallon AST	Bermed Containment Area
Premium Diesel Additive	1,000 gallon AST	Bermed Containment Area
Red Dye Additive	564 gallon AST	Bermed Containment Area
Generic Gasoline Additive	1,000 gallon AST	Bermed Containment Area
Gasoline Additive	10,000 gallon AST	Bermed Containment Area
#2 Heating Oil	550 gallon AST	Bermed Containment Area
Warehouse Fuel Oil	2,000 gallon AST	Bermed Containment Area
Reclaim Tank	550 gallon AST	Bermed Containment Area

14. **Site Visit:** Performed by Douglas Frasier and Susan Mackert on 10 April 2013.  
See **Attachment 4** for photographs and the 2007 Inspection Summary which reflects the April 2013 observations.

15. **Receiving Stream Water Quality and Water Quality Standards:**

a. Ambient Water Quality Data

The receiving stream, Crook Branch has not been monitored by DEQ. The nearest downstream DEQ monitoring station is on Accotink Creek, approximately 2.2 miles downstream of the outfalls. Station 1aACO018.48 is located at the Route 846 (Woodburn Road) bridge crossing. The following is the water quality summary for this segment of Accotink Creek, as taken from the Draft 2012 Integrated Report\*:

*Class III, Section 7, special stds. b.*

*DEQ ambient water quality monitoring stations 1aACO014.57, at Route 620, and 1aACO018.48, at Route 846 (Woodburn Road); fish tissue/sediment monitoring station 1aACO14.38, below Braddock Road. Citizen monitoring stations 1aACO-ACC14-SOS and 1aACO-ACC2-SOS.*

*E. coli monitoring finds a bacterial impairment, resulting in an impaired classification for the recreation use. A fecal coliform TMDL for the Accotink Creek watershed has been completed and approved.*

*Biological monitoring finds benthic macroinvertebrate impairments, resulting in an impaired classification for the aquatic life use. Also, citizen monitoring finds a high probability of adverse conditions for biota.*

*The fish consumption and wildlife uses are considered fully supporting.*

\*The Draft 2012 Integrated Report (IR) has been through the public comment period and reviewed by EPA. The 2012 IR is currently being finalized and prepared for release.

b. 303(d) Listed Stream Segments and Total Maximum Daily Loads (TMDLs)

TABLE 4 INFORMATION OF DOWNSTREAM 303 (d) IMPAIRMENTS AND TMDLs						
Waterbody Name	Impaired Use	Cause	Distance From Outfall	TMDL completed	WLA	Basis for WLA
<i>Impairment Information in the Draft 2012 Integrated Report*</i>						
Accotink Creek	Recreation	<i>E. coli</i>	2.1 miles	Accotink Creek Bacteria 05/31/2002	None	Not expected to discharge pollutant
	Aquatic Life	Benthic Macroinvertebrates	2.1 miles	No – TBD	NA	NA

TABLE 4 (continued)						
Waterbody Name	Impaired Use	Cause	Distance From Outfall	TMDL completed	WLA	Basis for WLA
Lake Accotink	Fish Consumption	Mercury in Fish Tissue	6.9 miles	No – 2022	NA	NA
	Fish Consumption	PCBs in Fish Tissue	6.9 miles	No – 2022	NA	NA

*\*The Draft 2012 Integrated Report (IR) has been through the public comment period and reviewed by EPA. The 2012 IR is currently being finalized and prepared for release.*

The full planning statement can be found in **Attachment 5**.

c. Receiving Stream Water Quality Criteria

Part IX of 9VAC25-260(360-550) designates classes and special standards applicable to defined Virginia river basins and sections. The receiving stream Crook Branch is located within Section 7 of the Potomac River Basin and classified as Class III water.

At all times, Class III waters must achieve a dissolved oxygen (D.O.) of 4.0 mg/L or greater, a daily average D.O. of 5.0 mg/L or greater, a temperature that does not exceed 32° C and maintain a pH of 6.0 – 9.0 standard units (S.U.).

**Attachment 6a** and **6b** details other water quality criteria applicable to the receiving stream for Outfall 001 and Outfall 002, respectively.

Ammonia

This facility discharges potentially contaminated stormwater from surface runoff; however, this operation does not utilize nor store ammonia products on site. It is staff's best professional judgement that ammonia is not expected to be present in the discharge in appreciable amounts; therefore, ammonia criterion is not warranted.

Metals Criteria

The Water Quality Criteria for some metals are dependent on the effluent and/or receiving stream hardness values (expressed as mg/L calcium carbonate). While there is no data available for Outfall 001, there is ambient data for Accotink Creek that was collected during 2005 and 2006. It is staff's best professional judgement that these values may be utilized since this is ultimately the receiving stream. An average hardness value of 87.1 mg/L CaCO<sub>3</sub> was used to ascertain to determine the metals criterion.

Effluent monitoring indicates an average value of 147 mg/L CaCO<sub>3</sub> for Outfall 002 (**Attachment 7**); which may be used to determine the metals criteria for this discharge.

See **Attachment 6a** and **6b** for the hardness-dependent metals criteria for each respective outfall.

d. Receiving Stream Special Standards

The State Water Control Board's Water Quality Standards, River Basin Section Tables (9VAC25-260-360, 370 and 380) designates the river basins, sections, classes and special standards for surface waters of the Commonwealth of Virginia. The receiving stream, Crook Branch, is located within Section 07 of the Potomac River Basin. This section has been designated with a special standard of "b".

Special Standard "b" (Potomac Embayment Standards) established effluent standards for all sewage plants discharging into Potomac River embayments and for expansions of existing plants discharging into non-tidal tributaries of these embayments. 9VAC25-415, Policy for the Potomac Embayments controls point source discharges of conventional pollutants into the Virginia embayment waters of the Potomac River, and their tributaries, from the fall line at Chain Bridge in Arlington County to the Route 301 Bridge in King George County. The regulation sets effluent limits for BOD<sub>5</sub>, total suspended solids, phosphorus and ammonia to protect the water quality of these high profile waterbodies.

The Potomac Embayment Standards are not applicable since industrial discharges were explicitly exempt, where BOD<sub>5</sub> and nutrients are not primary pollutants of concern (9VAC25-415-30.D.).

e. Threatened or Endangered Species

The Virginia DGIF Fish and Wildlife Information System Database was searched on 28 March 2013 for records to determine if there are threatened or endangered species in the vicinity of the discharge. The following threatened and endangered species were identified within a 2 mile radius of the discharge: Atlantic Sturgeon; brook floater (mussel), wood turtle, upland sandpiper (songbird), loggerhead shrike (songbird), Henslow's sparrow, Appalachian grizzled skipper (butterfly) and migrant loggerhead shrike (songbird). The proposed limits in this draft permit are protective of the Virginia Water Quality Standards and protect the threatened and endangered species found near the discharge.

16. **Antidegradation (9VAC25-260-30):**

All state surface waters are provided one of three levels of antidegradation protection. For Tier 1 or existing use protection, existing uses of the water body and the water quality to protect these uses must be maintained. Tier 2 water bodies have water quality that is better than the water quality standards. Significant lowering of the water quality of Tier 2 waters is not allowed without an evaluation of the economic and social impacts. Tier 3 water bodies are exceptional waters and are so designated by regulatory amendment. The antidegradation policy prohibits new or expanded discharges into exceptional waters.

The receiving stream has been classified as Tier 1 based on downstream impairments noted in Section 15.b. and the surrounding, highly urbanized area. It is staff's best professional judgment that such streams are Tier 1 and the limits are set to meet the Water Quality Standards. The proposed permit proposed have been established by determining wasteload allocations which will result in attaining and/or maintaining all water quality criteria which apply to the receiving stream, including narrative criteria. These wasteload allocations will provide for the protection and maintenance of all existing uses.

17. **Effluent Screening, Wasteload Allocation and Effluent Limitation Development:**

To determine water quality-based effluent limitations for a discharge, the suitability of data must first be determined. Data is suitable for analysis if one or more representative data points are equal to or above the quantification level ("QL") and the data represent the exact pollutant being evaluated.

Next, the appropriate Water Quality Standards (WQS) are determined for the pollutants in the effluent. Then, the Wasteload Allocations (WLAs) are calculated. The discharge from this facility is essentially dependent on wet weather; however, a discharge can only occur if two valves are manually opened. There is a reasonable potential that it could occur during non wet weather events. Therefore, it is staff's best professional judgement that WLAs are set equal to the WQS to ensure that the receiving stream is protected at all times.

The WLA values are then compared with available effluent data to determine the need for effluent limitations. Effluent limitations are needed if the 97th percentile of the daily effluent concentration values is greater than the acute wasteload allocation or if the 97th percentile of the four-day average effluent concentration values is greater than the chronic wasteload allocation. Effluent limitations are based on the most limiting WLA, the required sampling frequency and statistical characteristics of the effluent data.

a. Effluent Screening

Effluent data obtained from the permit application and the November 2003 – March 2013 Discharge Monitoring Reports (DMRs) has been reviewed and determined to be suitable for evaluation.

Please see **Attachment 7** for a summary of effluent data for both Outfall 001 and Outfall 002.

b. Mixing Zones and Wasteload Allocations (WLAs)

Wasteload allocations (WLAs) are calculated for those parameters in the effluent with the reasonable potential to cause an exceedance of water quality criteria. The basic calculation for establishing a WLA is the steady state complete mix equation:

$$WLA = \frac{C_o [Q_e + (f)(Q_s)] - [(C_s)(f)(Q_s)]}{Q_e}$$

Where: WLA = Wasteload allocation  
 $C_o$  = In-stream water quality criteria  
 $Q_e$  = Design flow  
 $Q_s$  = Critical receiving stream flow  
 (1Q10 for acute aquatic life criteria; 7Q10 for chronic aquatic life criteria; harmonic mean for carcinogen-human health criteria; 30Q10 for ammonia criteria; and 30Q5 for non-carcinogen human health criteria)  
 $f$  = Decimal fraction of critical flow  
 $C_s$  = Mean background concentration of parameter in the receiving stream.

Since the amount of flow present in the receiving stream would vary during a discharge event, it is staff's best professional judgement that determination of a mixing zone is not possible and the critical 7Q10 flows have been determined to be 0.0 MGD. Therefore, the WLA will be equal to the  $C_o$  to ensure that the water quality criteria are maintained at all times.

c. Effluent Limitations, Outfall 001 and Outfall 002 – Toxic Pollutants

9VAC25-31-220.D. requires limits be imposed where a discharge has a reasonable potential to cause or contribute to an in-stream excursion of water quality criteria. Those parameters with WLAs that are near effluent concentrations are evaluated for limits.

The VPDES Permit Regulation at 9VAC25-31-230.D requires that monthly and weekly average limitations be imposed for continuous discharges from POTWs and monthly average and daily maximum limitations be imposed for all other continuous non-POTW discharges.

1). Ammonia as N

As previously stated, this facility does not store nor utilize ammonia containing chemicals; therefore, limit derivations are not warranted.

2). Total Residual Chlorine

The facility would be utilizing potable water during any hydrostatic testing; however, the permittee has requested that Outfall 003 (designated for hydrostatic test discharges) be removed with this reissuance. Any future hydrostatic tests would be covered under the *General VPDES Permit Regulation for Discharges from Petroleum Contaminated Sites, Groundwater Remediation and Hydrostatic Tests* (9VAC25-120); thus, chlorine limitations are no longer warranted under this permit for this facility.

3). Metals/Organics

*Outfall 001*: DEQ's Guidance recommends that chemical specific water quality-based limits not be placed on stormwater outfalls at this time because the methodology for developing limits and the proper method of sampling is still under review by EPA. EPA produced a document dated 1 August 1996, entitled "Interim Permitting Approach for Water Quality-Based Effluent Limitations in Storm Water Permits". This document indicated that an interim approach to limiting stormwater could be through the use of best management practices rather than numerical limits.

Stormwater discharges are considered intermittent and as such, the primary concern would be acute water quality impacts. The duration of this discharge is not expected to occur for four or more consecutive days (96 hours). Water Quality Criteria for human health (and chronic toxicity to a lesser degree) are based upon long term, continuous exposure to pollutants from effluents and stormwater discharges are short term and intermittent. Therefore, it is staff's best professional judgement that acute criteria should be used to derive the screening criteria.

Screening (i.e., decision) values expressed as monitoring end-points are established at two times the acute water quality criterion established in the Virginia Water Quality Standards (9VAC25-260 et.seq.). There are two primary reasons the end-points are established at two times the criterion. First, the acute criterion is defined as one-half of the final acute value (FAV) for a specific toxic pollutant. The FAV is determined from exposure of the specific toxicant to a variety of aquatic species and is based on the level of a chemical or mixture of chemicals that does not allow the mortality or other specified response of aquatic organisms. These criteria represent maximum pollutant concentration values, which when exceeded, would cause acute effects on aquatic life in a short time period.

Second, if it is raining a sufficient amount to generate a discharge of stormwater, it is assumed that the receiving stream flow would be greater than the critical flows of 0.0 MGD for intermittent streams due to stormwater runoff within the stream's drainage area. In recognition of the FAV and the dilution caused by the rainfall, the monitoring end-points are calculated by multiplying the acute Water Quality Criteria by a factor of two (2).

However, this outfall is a valved (manual) discharge to manage the water level in the retention pond. A discharge may not necessarily occur during a storm event; thus, allowance for the aforementioned dilution would not be applicable for this outfall. In addition, there are no process units or controls in place to manage the levels of zinc present in the stormwater. Zinc is present due to the bulk tanks and appurtenances and the heavy truck traffic at the facility. Therefore, it is staff's best professional judgement that the screening point will equal the acute criteria only without applying the dilution factor of two (2).

The effluent metal data were reevaluated during this reissuance to ascertain if continued monitoring is warranted. A reasonable potential analysis for copper indicates that no limit is needed while a limit for zinc could be warranted. See **Attachment 8** for limit derivations. It is proposed that the monitoring requirement for copper be removed with this reissuance.

Effluent monitoring for zinc indicated that 2 out of 10 data points exceeded the calculated limitation of 100 µg/L found in **Attachment 8**.

In lieu of imposing a limit and reflecting current agency guidance, it is staff's best professional judgement that the permittee continue monitoring for zinc. However, if any data indicate concentrations greater than 100 µg/L, the permittee shall investigate the possible causes and take corrective actions.

The permittee shall utilize best management practices as part of the Stormwater Pollution Prevention Plan to ensure that there is no contamination of stormwater runoff that impact State Waters from metals at this facility.

*Outfall 002:* Hardness data was collected during the last permit cycle and it was determined that the average effluent hardness was 147 mg/L CaCO<sub>3</sub>. The calculated WLA for zinc is provided in **Attachment 6b** and the subsequent limit calculation is provided in **Attachment 9**, indicating that no limit is necessary. However, due to antibacksliding, the limit of 53 µg/L for zinc will remain in this reissuance.

4). Benzene, Toluene, Ethylbenzene and Xylene (BTEX)

The effluent limitations set forth in this permit reflect those found in the *General VPDES Permit for Discharges from Petroleum Contaminated Sites, Groundwater Remediation, and Hydrostatic Tests*, 9VAC25-120 et seq., effective 26 February 2013. The limits are set at what is believed to be safe concentrations for the protection of beneficial uses including the growth and propagation of aquatic organisms inhabiting surface waters that receive the discharge.

The limits assume zero dilution of the effluent by the receiving waters so that they can be applied without regard to effluent or receiving water flows. They are based on information provided in EPA criteria documents for priority pollutants, EPA toxicity databases and conservative application factors.

5). Naphthalene

The proposed limitation for naphthalene is a water quality-based limit and reflects limits found in 9VAC25-120. Naphthalene is a component of gasoline and non-gasoline petroleum products; however, its relative concentration is higher in products such as diesel and kerosene than in gasoline. This facility stores and distributes diesel and fuel oil.

6). Total Petroleum Hydrocarbon (TPH)

It is proposed that the technology-based limit of 15 mg/L for total petroleum hydrocarbons at Outfall 001 be carried forward with this reissuance. It is based on the ability of simple oil/water separator technology to recover free product from water. Wastewater that is discharged without a visible sheen is generally expected to meet this effluent limitation.

Outfall 002 has a limit of 10 mg/L, based on the ability of the remediation system installed and this will also be carried forward with this reissuance.

d. Effluent Limitations and Monitoring, Outfall 001 and Outfall 002 – Conventional and Non-Conventional Pollutants

No changes to the pH limitations are proposed.

pH limitations are set at the water quality criteria.

e. Effluent Limitations and Monitoring Summary for Outfall 001 and Outfall 002

The effluent limitations and monitoring are presented in the following table. Limits and monitoring were established for total petroleum hydrocarbons (TPH), benzene, toluene, ethylbenzene, xylene, naphthalene, total recoverable zinc, pH, hardness and whole effluent toxicity.

The proposed total suspended solids limit for Outfall 001 is included with this reissuance to ensure proper operation and maintenance of the stormwater pond. The limit was derived from the requirements at other similar industrial facilities utilizing sedimentation of stormwater runoff and reflects current agency practice.

Sample type and frequency are in accordance with the recommendations in the VPDES Permit Manual for Outfall 001.

The sample type at Outfall 002 is in accordance with the recommendations in the VPDES Permit Manual. The sample frequency was reduced based on staff's best professional judgement. The discharge has been routed to sanitary and the likely hood of a discharge occurring is remote; therefore, semiannual submittals of DMRs would reduce the reporting burden on the permittee. In addition, review of effluent data does not indicate any limitation violations during the past three (3) years.

**18. Antibacksliding:**

The backsliding proposed with this reissuance conforms to the anti-backsliding provisions of Section 402(o) of the Clean Water Act, 9VAC25-31-220.L., and 40 CFR 122.44. The permittee requested that Outfall 003 (hydrostatic tests) be removed with this reissuance. This facility has not conducted a test during the past three permit terms. Any future hydrostatic tests conducted at this facility would be covered under the *General VPDES Permit for Discharges from Petroleum Contaminated Sites, Groundwater Remediation, and Hydrostatic Tests*, 9VAC25-120 et seq. The limitations set forth in this General Permit are at least as stringent as would be found in this permit.

The hardness limitation of 50 mg/L at Outfall 002 was removed with this reissuance. This limit was applied in error as the default value utilized to determine if metal limitations were warranted during the 1998 reissuance. It is current practice not to include a minimum hardness effluent limit to a discharge. In addition, hardness would not be considered a pollutant source and it is staff's best professional judgement that maintaining a minimum level could inadvertently alter the naturally occurring hardness levels downstream of the facility.

**19a. Effluent Limitations/Monitoring Requirements:****Outfall 001 – Effluent from the Stormwater Retention Pond.**

Maximum Flow of this Retention Pond is 0.048 MGD.

Effective Dates: During the period beginning with the permit's effective date and lasting until the expiration date.

PARAMETER	BASIS FOR LIMITS	DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
		Monthly Average	Daily Maximum	Minimum	Maximum	Frequency	Sample Type
Flow (MGD)	NA	NL	NA	NA	NL	1/M	Estimate
pH	3	NA	NA	6.0 S.U.	9.0 S.U.	1/M	Grab
Total Suspended Solids (TSS)	2	NA	NA	NA	60 mg/L	1/M	Grab
Total Petroleum Hydrocarbons*	4	NA	NA	NA	15 mg/L	1/M	Grab
Naphthalene	3,4	NA	NA	NA	8.9 µg/L	1/M	Grab
Zinc, Dissolved**	2	NA	NA	NA	NL µg/L	1/Y	Grab
Acute Whole Effluent Toxicity	2	NA	NA	NA	NL %	1/Y	Grab

The basis for the limitations codes are:

1. Federal Effluent Requirements
2. Best Professional Judgement
3. Water Quality Standards
4. 9VAC25-120

*MGD* = Million gallons per day.*1/M* = Once every month.*NA* = Not applicable.*1/Y* = Once every calendar year.*NL* = No limit; monitor and report.*S.U.* = Standard units.

Estimate = Reported flow is to be based on the technical evaluation of the sources contributing to the discharge.

Grab = An individual sample collected over a period of time not to exceed 15-minutes.

\* Total Petroleum Hydrocarbons (TPH) is the sum of individual gasoline range organics and diesel range organics or TPH-GRO and TPH-DRO to be measured by EPA SW 846 Method 8015 for gasoline and diesel range organics, or by EPA SW 846 Methods 8260 Extended and 8270 Extended.

\*\*If any sampling results are greater than 100 µg/L, the permittee shall investigate and take corrective actions. The permittee shall submit the findings and a corrective action plan within 90 days of receipt of the laboratory results.

VA0002283  
PAGE 12 of 15

**19b. Effluent Limitations/Monitoring Requirements:****Outfall 002 – Effluent from Treated Groundwater Remediation.**

Maximum Flow of this Treatment System is 0.005 MGD.

Effective Dates: During the period beginning with the permit's effective date and lasting until the expiration date.

PARAMETER	BASIS FOR LIMITS	DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
		Monthly Average	Daily Maximum	Minimum	Maximum	Frequency	Sample Type
Flow (MGD)	NA	NL	NA	NA	NL	Contingent	Estimate
pH	3	NA	NA	6.0 S.U.	9.0 S.U.	Contingent	Grab
Total Petroleum Hydrocarbons*	2,4	NA	NA	NA	10 mg/L	Contingent	Grab
Benzene	3,4,5	NA	NA	NA	12 µg/L	Contingent	Grab
Ethylbenzene	4,5	NA	NA	NA	4.3 µg/L	Contingent	Grab
Toluene	4,5	NA	NA	NA	43 µg/L	Contingent	Grab
Total Xylenes	4,5	NA	NA	NA	33 µg/L	Contingent	Grab
Naphthalene	3,5	NA	NA	NA	8.9 µg/L	Contingent	Grab
Zinc, Total Recoverable	3	NA	NA	NA	53 µg/L	Contingent	Grab
Chronic Whole Effluent Toxicity	3	NA	NA	NA	1.8 TUc	Contingent	Grab

The basis for the limitations codes are:

1. Federal Effluent Requirements
2. Best Professional Judgement
3. Water Quality Standards
4. Technology Based Limits
5. 9VAC25-120

MGD = Million gallons per day.

NA = Not applicable.

NL = No limit; monitor and report.

S.U. = Standard units.

Contingent = Monitoring only required if a discharge occurs. The reporting frequency shall be semiannual (1/6M)\*\*

Estimate = Reported flow is to be based on the technical evaluation of the sources contributing to the discharge.

Grab = An individual sample collected over a period of time not to exceed 15-minutes.

\* Total Petroleum Hydrocarbons (TPH) is the sum of individual gasoline range organics and diesel range organics or TPH-GRO and TPH-DRO to be measured by EPA SW 846 Method 8015 for gasoline and diesel range organics, or by EPA SW 846 Methods 8260 Extended and 8270 Extended.

\*\* The semiannual monitoring periods shall be January through June and July through December.

The DMR shall be submitted no later than the 10<sup>th</sup> day of the month following the monitoring period.



**20. Other Permit Requirements:****a. Permit Section Part I.B. details quantification levels and compliance reporting instructions**

9VAC25-31-190.L.4.c. requires an arithmetic mean for measurement averaging and 9VAC25-31-220.D. requires limits be imposed where a discharge has a reasonable potential to cause or contribute to an in-stream excursion of water quality criteria. Specific analytical methodologies for toxics are listed in this permit section as well as quantification levels (QLs) necessary to demonstrate compliance with applicable permit limitations or for use in future evaluations to determine if the pollutant has reasonable potential to cause or contribute to a violation. Required averaging methodologies are also specified.

**b. Permit Section Part I.C. and Part I.D. details the requirements of a Stormwater Management Plan**

Industrial stormwater discharges may contain pollutants in quantities that could adversely affect water quality. Stormwater discharges which are discharged through a conveyance or outfall are considered point sources and require coverage by a VPDES permit. The primary method to reduce or eliminate pollutants in storm water discharges from an industrial facility is through the use of best management practices (BMPs). Stormwater Management Plan requirements are derived from the VPDES General Permit for Stormwater Discharges Associated with Industrial Activity, 9VAC25-151 et seq.

**c. Permit Section Part I.E., details the requirements for Whole Effluent Toxicity (WET) Program**

The VPDES Permit Regulation at 9VAC25-31-210 requires monitoring and 9VAC25-31-220.I, requires limitations in the permit to provide for and assure compliance with all applicable requirements of the State Water Control Law and the Clean Water Act. A WET Program is imposed at facilities based on effluent characteristics and a reasonable potential to cause adverse environmental harm. Bulk terminals necessitate the inclusion of a WET Program. See **Attachment 10** for a summary of previous test results.

**21. Other Special Conditions:**

- a. O&M Manual Requirement. Required by VPDES Permit Regulation, 9VAC25-31-190.E. The permittee shall maintain a current Operations and Maintenance (O&M) Manual. The permittee shall operate the treatment works in accordance with the O&M Manual and shall make the O&M Manual available to Department personnel for review upon request. Any changes in the practices and procedures followed by the permittee shall be documented in the O&M Manual within 90 days of the effective date of the changes. Non-compliance with the O&M Manual shall be deemed a violation of the permit.
- b. Notification Levels. The permittee shall notify the Department as soon as they know or have reason to believe:
- 1). That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant which is not limited in this permit, if that discharge will exceed the highest of the following notification levels:
    - a) One hundred micrograms per liter;
    - b) Two hundred micrograms per liter for acrolein and acrylonitrile; five hundred micrograms per liter for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter for antimony;
    - c) Five times the maximum concentration value reported for that pollutant in the permit application; or
    - d) The level established by the Board.
  - 2). That any activity has occurred or will occur which would result in any discharge, on a nonroutine or infrequent basis, of a toxic pollutant which is not limited in this permit, if that discharge will exceed the highest of the following notification levels:
    - a) Five hundred micrograms per liter;
    - b) One milligram per liter for antimony;
    - c) Ten times the maximum concentration value reported for that pollutant in the permit application; or
    - d) The level established by the Board.
- c. Materials Handling/Storage. 9VAC25-31-50.A prohibits the discharge of any wastes into State waters unless authorized by permit. Code of Virginia §62.1-44.16 and §62.1-44.17 authorize the Board to regulate the discharge of industrial waste or other waste.

- d. Oil Storage Groundwater Monitoring Reopener. As this facility currently manages groundwater in accordance with 9VAC25-90-10 et seq., Oil Discharge Contingency Plans and Administration Fees for Approval, this permit does not presently impose groundwater monitoring requirements. However, this permit may be modified or alternately revoked and reissued to include groundwater monitoring not required by the ODCP regulation.
  - e. No Discharge of Detergents, Surfactants or Solvents to the Oil/Water Separators. This special condition is necessary to ensure that the oil/water separators' performance is not impacted by compounds designed to emulsify oil. Detergents, surfactants and some other solvents will prohibit oil recovery by physical means.
  - f. TMDL Reopener. This special condition allows the permit to be reopened if necessary to bring it into compliance with any applicable TMDL that may be developed and approved for the receiving stream.
22. Permit Section Part II. Part II of the permit contains standard conditions that appear in all VPDES Permits. In general, these standard conditions address the responsibilities of the permittee, reporting requirements, testing procedures and records retention.
23. **Changes to the Permit from the Previously Issued Permit:**
- a. Special Conditions:
    - The Hydrostatic Testing condition was removed with this reissuance. The permittee will obtain coverage under 9VAC25-120 if a hydrostatic test is required.
  - b. Monitoring and Effluent Limitations:
    - Dissolved copper monitoring was removed from Outfall 001.
    - Naphthalene limitations were added to Outfall 001 to reflect those limitations found in 9VAC25-120 for petroleum product contamination other than gasoline since the facility stores diesel and fuel oil.
    - Total suspended solids limitation was added to Outfall 001 to reflect current agency practice and requirements at other similar industrial facilities that utilize stormwater retention ponds.
    - The reporting requirement for WET testing was corrected from  $TU_a$  to NOAEC (%), reflecting current agency guidance.
    - Outfall 002 has been connected to public sewer; however, the permittee requested to keep the option of a discharge from this remediation system. Monitoring will be contingent, if a discharge occurs.
    - The monitoring frequency for Outfall 002 was reduced to semi-annual due to the above changes.
    - The following limitations for the parameters at Outfall 002 were changed to reflect the current limits found in 9VAC25-120 et seq.:
      - Benzene was changed from 50µg/L to 12 µg/L
      - Ethylene was changed from 320µg/L to 4.3 µg/L
      - Naphthalene was changed from 10µg/L to 8.9 µg/L
      - Toluene was changed from 175 µg/L to 43 µg/L
    - The sample type for the chronic whole effluent toxicity testing required at Outfall 002 was changed from a twenty-four hour composite to a grab sample due to the sanitary sewer connection and the limited discharge that would occur.
    - Outfall 003 was removed with this reissuance. The permittee will obtain coverage under 9VAC25-120 if a hydrostatic test is required.
24. **Variances/Alternate Limits or Conditions:** None.

**25. Public Notice Information:**

First Public Notice Date: TBD 2013

Second Public Notice Date: TBD 2013

Public Notice Information is required by 9VAC25-31-280 B. All pertinent information is on file and may be inspected and copied by contacting the: DEQ Northern Regional Office; 13901 Crown Court; Woodbridge, VA 22193; Telephone No. (703) 583-3873; Douglas.Frasier@deq.virginia.gov. See **Attachment 11** for a copy of the public notice document.

Persons may comment in writing or by email to the DEQ on the proposed permit action, and may request a public hearing, during the comment period. Comments shall include the name, address, and telephone number of the writer and of all persons represented by the commenter/requester, and shall contain a complete, concise statement of the factual basis for comments. Only those comments received within this period will be considered. The DEQ may decide to hold a public hearing, including another comment period, if public response is significant and there are substantial, disputed issues relevant to the permit. Requests for public hearings shall state 1) the reason why a hearing is requested; 2) a brief, informal statement regarding the nature and extent of the interest of the requester or of those represented by the requester, including how and to what extent such interest would be directly and adversely affected by the permit; and 3) specific references, where possible, to terms and conditions of the permit with suggested revisions. Following the comment period, the Board will make a determination regarding the proposed permit action. This determination will become effective, unless the DEQ grants a public hearing. Due notice of any public hearing will be given. The public may request an electronic copy of the draft permit and fact sheet or review the draft permit and application at the DEQ Northern Regional Office by appointment.

**26. Additional Comments:**

Previous Board Action(s): None.

Staff Comments: Reissuance of this permit was delayed based on staff's best professional judgement to await the outcome of the Accotink Creek TMDL litigation.

Public Comment: No comments were received during the public notice.

EPA Checklist: The checklist can be found in **Attachment 12**.

# Fact Sheet Attachments

## Table of Contents

Motiva Enterprises LLC  
Fairfax Distribution Terminal  
VA0002283  
2013 Reissuance

Attachment 1	NPDES Permit Rating Worksheet
Attachment 2	Facility Schematic/Diagram
Attachment 3	Topographic Map
Attachment 4	Site Visit Photographs / 2007 Inspection Summary
Attachment 5	Planning Statement
Attachments 6a / 6b	Water Quality Criteria / Wasteload Allocation Analysis for Outfall 001 / Outfall 002
Attachment 7	November 2003 – March 2013 Effluent Data for Outfall 001 and Outfall 002
Attachment 8	Metal Limitation Derivations for Outfall 001
Attachment 9	Metal Limitation Derivations for Outfall 002
Attachment 10	Whole Effluent Toxicity Test Result Summaries
Attachment 11	Public Notice
Attachment 12	EPA Checklist

## NPDES PERMIT RATING WORK SHEET

VPDES NO. : VA0002283

<input type="checkbox"/>	Regular Addition
<input type="checkbox"/>	Discretionary Addition
<input checked="" type="checkbox"/>	Score change, but no status Change
<input type="checkbox"/>	Deletion

Facility Name: Motiva Enterprises LLC – Fairfax Distribution Terminal  
 City / County: Fairfax / Fairfax  
 Receiving Water: Crook Branch  
 Waterbody ID: VAN-A15R

Is this facility a steam electric power plant (sic =4911) with one or more of the following characteristics?

1. Power output 500 MW or greater (not using a cooling pond/lake)  
 2. A nuclear power Plant  
 3. Cooling water discharge greater than 25% of the receiving stream's 7Q10 flow rate

Is this permit for a municipal separate storm sewer serving a population greater than 100,000?

- ☐ YES; score is 700 (stop here)  
☒ NO; (continue)

☐ Yes; score is 600 (stop here) ☒ NO; (continue)

**FACTOR 1: Toxic Pollutant Potential**

PCS SIC Code: \_\_\_\_\_ Primary Sic Code: 5171 Other Sic Codes: \_\_\_\_\_  
 Industrial Subcategory Code: 000 (Code 000 if no subcategory)

Determine the Toxicity potential from Appendix A. Be sure to use the TOTAL toxicity potential column and check one)

Toxicity Group	Code	Points	Toxicity Group	Code	Points	Toxicity Group	Code	Points
<input type="checkbox"/> No process waste streams	0	0	<input type="checkbox"/> 3.	3	15	<input type="checkbox"/> 7.	7	35
<input type="checkbox"/> 1.	1	5	<input type="checkbox"/> 4.	4	20	<input checked="" type="checkbox"/> 8.	8	40
<input type="checkbox"/> 2.	2	10	<input type="checkbox"/> 5.	5	25	<input type="checkbox"/> 9.	9	45
			<input type="checkbox"/> 6.	6	30	<input type="checkbox"/> 10.	10	50

Code Number Checked: 8

**Total Points Factor 1:** 40

**FACTOR 2: Flow/Stream Flow Volume** (Complete either Section A or Section B; check only one)**Section A – Wastewater Flow Only considered**

Wastewater Type (see Instructions)	Code	Points
Type I: Flow < 5 MGD	<input type="checkbox"/> 11	0
Flow 5 to 10 MGD	<input type="checkbox"/> 12	10
Flow > 10 to 50 MGD	<input type="checkbox"/> 13	20
Flow > 50 MGD	<input type="checkbox"/> 14	30
Type II: Flow < 1 MGD	<input checked="" type="checkbox"/> 21	10
Flow 1 to 5 MGD	<input type="checkbox"/> 22	20
Flow > 5 to 10 MGD	<input type="checkbox"/> 23	30
Flow > 10 MGD	<input type="checkbox"/> 24	50
Type III: Flow < 1 MGD	<input type="checkbox"/> 31	0
Flow 1 to 5 MGD	<input type="checkbox"/> 32	10
Flow > 5 to 10 MGD	<input type="checkbox"/> 33	20
Flow > 10 MGD	<input type="checkbox"/> 34	30

**Section B – Wastewater and Stream Flow Considered**

Wastewater Type (see Instructions)	Percent of Instream Wastewater Concentration at Receiving Stream Low Flow	Code	Points
Type I/III:	< 10 %	<input type="checkbox"/> 41	0
	10 % to < 50 %	<input type="checkbox"/> 42	10
	> 50%	<input type="checkbox"/> 43	20
Type II:	< 10 %	<input type="checkbox"/> 51	0
	10 % to < 50 %	<input type="checkbox"/> 52	20
	> 50 %	<input type="checkbox"/> 53	30

Code Checked from Section A or B: 21

**Total Points Factor 2:** 10

## NPDES PERMIT RATING WORK SHEET

**FACTOR 3: Conventional Pollutants**

(only when limited by the permit)

A. Oxygen Demanding Pollutants: (check one)

☐

BOD

☐

COD

☐

Other: \_\_\_\_\_

Permit Limits: (check one)

☐  
☐  
☐  
☐< 100 lbs/day  
100 to 1000 lbs/day  
> 1000 to 3000 lbs/day  
> 3000 lbs/day

Code

1  
2  
3  
4

Points

0  
5  
15  
20

Code Number Checked: NA

Points Scored: 0

B. Total Suspended Solids (TSS)

Permit Limits: (check one)

☐  
☐  
☐  
☐< 100 lbs/day  
100 to 1000 lbs/day  
> 1000 to 5000 lbs/day  
> 5000 lbs/day

Code

1  
2  
3  
4

Points

0  
5  
15  
20

Code Number Checked: NA

Points Scored: 0

C. Nitrogen Pollutants: (check one)

☐

Ammonia

☐

Other: \_\_\_\_\_

Permit Limits: (check one)

☐  
☐  
☐  
☐Nitrogen Equivalent  
< 300 lbs/day  
300 to 1000 lbs/day  
> 1000 to 3000 lbs/day  
> 3000 lbs/day

Code

1  
2  
3  
4

Points

0  
5  
15  
20

Code Number Checked: NA

Points Scored: 0

Total Points Factor 3: 0

**FACTOR 4: Public Health Impact**

Is there a public drinking water supply located within 50 miles downstream of the effluent discharge (this include any body of water to which the receiving water is a tributary)? A public drinking water supply may include infiltration galleries, or other methods of conveyance that ultimately get water from the above reference supply.

☐ YES; (If yes, check toxicity potential number below)☒ NO; (If no, go to Factor 5)

Determine the *Human Health* potential from Appendix A. Use the same SIC doe and subcategory reference as in Factor 1. (Be sure to use the *Human Health* toxicity group column – check one below)

Toxicity Group	Code	Points	Toxicity Group	Code	Points	Toxicity Group	Code	Points
<input type="checkbox"/> No process waste streams	0	0	<input type="checkbox"/> 3.	3	0	<input type="checkbox"/> 7.	7	15
<input type="checkbox"/> 1.	1	0	<input type="checkbox"/> 4.	4	0	<input type="checkbox"/> 8.	8	20
<input type="checkbox"/> 2.	2	0	<input type="checkbox"/> 5.	5	5	<input type="checkbox"/> 9.	9	25
			<input type="checkbox"/> 6.	6	10	<input type="checkbox"/> 10.	10	30

Code Number Checked: NA

Total Points Factor 4: 0

## NPDES PERMIT RATING WORK SHEET

**FACTOR 5: Water Quality Factors**

*Is (or will) one or more of the effluent discharge limits based on water quality factors of the receiving stream (rather than technology-base federal effluent guidelines, or technology-base state effluent guidelines), or has a wasteload allocation been assigned to the discharge?*

	Code	Points
<input checked="" type="checkbox"/> YES	1	10
<input type="checkbox"/> NO	2	0

B. *Is the receiving water in compliance with applicable water quality standards for pollutants that are water quality limited in the permit?*

	Code	Points
<input checked="" type="checkbox"/> YES	1	0
<input type="checkbox"/> NO	2	5

C. *Does the effluent discharged from this facility exhibit the reasonable potential to violate water quality standards due to whole effluent toxicity?*

	Code	Points
<input type="checkbox"/> YES	1	10
<input checked="" type="checkbox"/> NO	2	0

Code Number Checked: A 1 B 1 C 2  
**Points Factor 5:** A 10 + B 0 + C 0 = 10

**FACTOR 6: Proximity to Near Coastal Waters**

A. Base Score: Enter flow code here (from factor 2) 21

Check appropriate facility HPRI code (from PCS):

HPRI#	Code	HPRI Score
<input type="checkbox"/> 1	1	20
<input type="checkbox"/> 2	2	0
<input type="checkbox"/> 3	3	30
<input checked="" type="checkbox"/> 4	4	0
<input type="checkbox"/> 5	5	20

HPRI code checked : 4

Base Score (HPRI Score): 0 X (Multiplication Factor) 0.10 = 0

Enter the multiplication factor that corresponds to the flow code: 0.10

Flow Code	Multiplication Factor
11, 31, or 41	0.00
12, 32, or 42	0.05
13, 33, or 43	0.10
14 or 34	0.15
21 or 51	0.10
22 or 52	0.30
23 or 53	0.60
24	1.00

B. Additional Points – NEP Program

For a facility that has an HPRI code of 3, does the facility discharge to one of the estuaries enrolled in the National Estuary Protection (NEP) program (see instructions) or the Chesapeake Bay?

Code	Points	NA
<input type="checkbox"/> 1	10	
<input type="checkbox"/> 2	0	

C. Additional Points – Great Lakes Area of Concern

For a facility that has an HPRI code of 5, does the facility discharge any of the pollutants of concern into one of the Great Lakes' 31 area's of concern (see instructions)?

Code	Points	NA
<input type="checkbox"/> 1	10	
<input type="checkbox"/> 2	0	

Code Number Checked: A 4 B NA C NA  
**Points Factor 6:** A 0 + B 0 + C 0 = 0

## NPDES PERMIT RATING WORK SHEET

## SCORE SUMMARY

<u>Factor</u>	<u>Description</u>	<u>Total Points</u>
1	Toxic Pollutant Potential	40
2	Flows / Streamflow Volume	10
3	Conventional Pollutants	0
4	Public Health Impacts	0
5	Water Quality Factors	10
6	Proximity to Near Coastal Waters	0
TOTAL (Factors 1 through 6)		60

S1. Is the total score equal to or greater than 80 ☐ YES; (Facility is a Major) ☒ NO

S2. If the answer to the above questions is no, would you like this facility to be discretionary major?

☒ NO

☐ YES; (Add 500 points to the above score and provide reason below:

Reason:

---

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NEW SCORE : 60

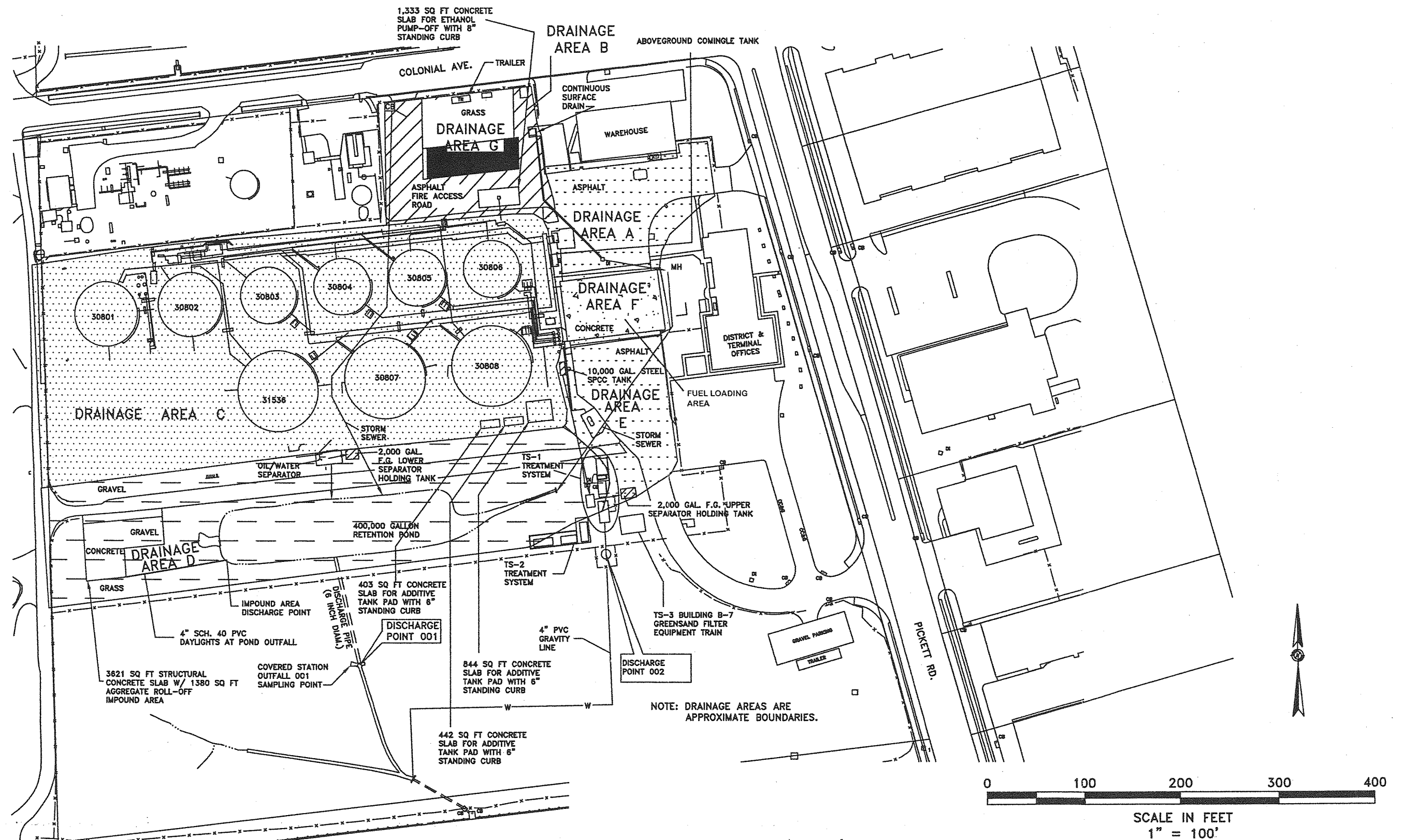
OLD SCORE : 70

Permit Reviewer's Name : Douglas Frasier

Phone Number: 703-583-3873

Date: 16 April 2013





Motiva Fairfax Terminal  
3800 Pickett Road  
Fairfax, VA 22031

**URS**  
12420 Milestone Center Drive  
Suite 150  
Germantown, MD 20876

FACILITY PLAN SHOWING  
DRAINAGE AREAS AND  
OUTFALL LOCATIONS

DRAWN BY:	MACTEC
REVISED BY:	MS
FIGURE:	4



Figure 1: Schematic representation of the 1.2 kb genomic region of the human 12O6MT gene. The diagram shows the gene structure with exons as boxes and introns as lines. Exons 1, 2, 3, and 4 are labeled. A scale bar at the top indicates 1 kb. A legend at the bottom indicates that black boxes represent exons and lines represent introns.







Colonial Ave

3800 Pickett Rd, Fairfax, VA

Data SIO, NOAA, U.S. Navy, NGA, GEBCO  
© 2013 Google

38°50'48.34"N 77°16'27.84"W

elev. 404 ft

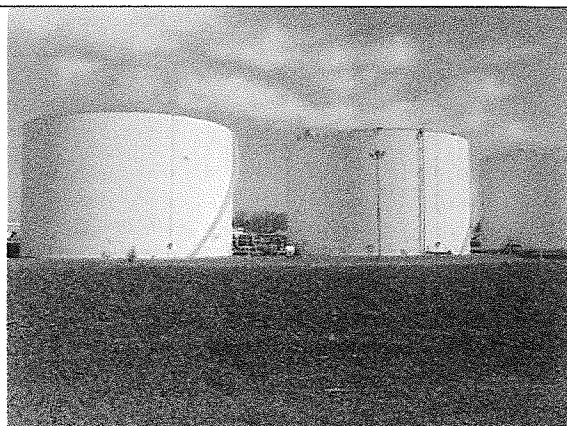
Oct 13, 2012

Eye alt. 1556 ft

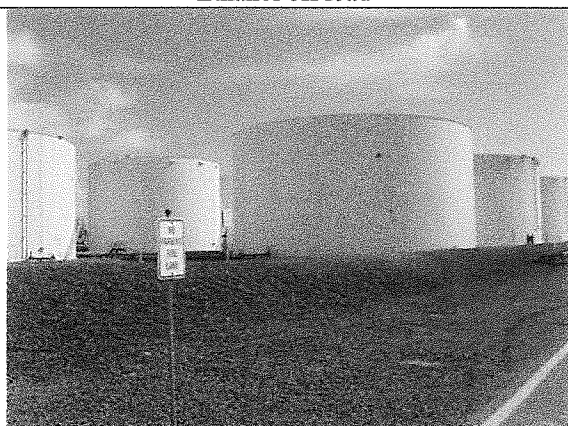
Motiva Enterprises  
Site Visit  
10 April 2013



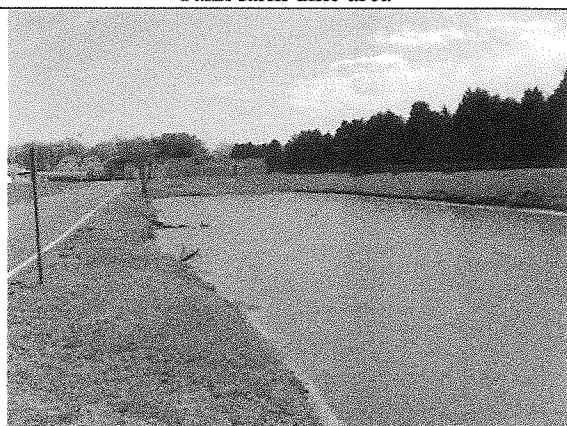
Ethanol off load



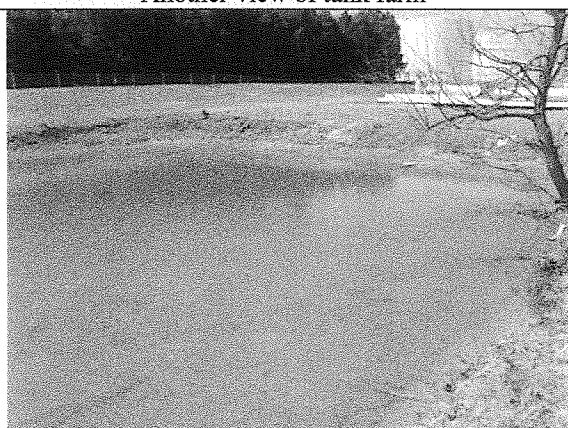
Tank farm dike area



Another view of tank farm



Retention pond



Retention pond

No compliance recommendations were included in the previous inspection on August 25, 1999.

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**Summary of conditions for current inspection**

**Comments:**

No recommendations are included in this report, as the facility is well run and maintained.

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To: Douglas Frasier  
From: Katie Conaway

Date: March 27, 2013  
Subject: Planning Statement for Motiva Enterprises – Fairfax Terminal  
Permit Number: VA0002283

**Information for Outfall 001:**

Discharge Type: Industrial stormwater from bulk terminal  
Discharge Flow: 0.048 MGD  
Receiving Stream: Crook Branch  
Latitude / Longitude: 38 50 45.9/-77 16 29.3  
Rivermile: 2.18  
Streamcode: VAN-A15R  
Waterbody: 1aCRK  
Water Quality Standards: Basin 1a, Class III, Section 7, Sp Stds b  
Drainage Area: < 0.1 mi<sup>2</sup>

**Information for Outfall 002:**

Discharge Type: Groundwater treatment system (carbon/air stripper)  
Discharge Flow: 0.005 MGD  
Receiving Stream: Crook Branch  
Latitude / Longitude: 38 50 47.3/-77 16 25.4  
Rivermile: 2.10  
Streamcode: VAN-A15R  
Waterbody: 1aCRK  
Water Quality Standards: Basin 1a, Class III, Section 7, Sp Stds b  
Drainage Area: < 0.1 mi<sup>2</sup>

*Outfall 002 will be connected to sanitary prior to reissuance of this permit. Facility wants to keep this outfall as a backup (discharges will be minimal, if at all).*

*Current permit does have an Outfall 003 for hydrostatic test discharges. This outfall will be eliminated with this reissuance. Any hydrostatic tests will be governed by the general permit.*

1. Please provide water quality monitoring information for the receiving stream segment. If there is not monitoring information for the receiving stream segment, please provide information on the nearest downstream monitoring station, including how far downstream the monitoring station is from the outfall.

The receiving stream, Crook Branch has not been monitored by DEQ. The nearest downstream DEQ monitoring station is on Accotink Creek, approximately 2.2 miles downstream of the outfalls. Station 1aCO018.48 is located at the Route 846 (Woodburn Road) bridge crossing. The following is the water quality summary for this segment of Accotink Creek, as taken from the Draft 2012 Integrated Report\*:

*Class III, Section 7, special stds. b.*

*DEQ ambient water quality monitoring stations 1aACO014.57, at Route 620, and 1aACO018.48, at Route 846 (Woodburn Road); fish tissue/sediment monitoring station 1aACO14.38, below Braddock Road. Citizen monitoring stations 1aACO-ACC14-SOS and 1aACO-ACC2-SOS.*

*E. coli monitoring finds a bacterial impairment, resulting in an impaired classification for the recreation use. A fecal coliform TMDL for the Accotink Creek watershed has been completed and approved.*

*Biological monitoring finds benthic macroinvertebrate impairments, resulting in an impaired classification for the aquatic life use. Also, citizen monitoring finds a high probability of adverse conditions for biota.*

*The fish consumption and wildlife uses are considered fully supporting.*

\*The Draft 2012 Integrated Report (IR) has been through the public comment period and reviewed by EPA. The 2012 IR is currently being finalized and prepared for release.

2. Does this facility discharge to a stream segment on the 303(d) list?

No.

3. Are there any downstream 303(d) listed impairments that are relevant to this discharge? If yes, please fill out Table B.

**Table B. Information on Downstream 303(d) Impairments and TMDLs**

Waterbody Name	Impaired Use	Cause	Distance From Outfall	TMDL completed	WLA	Basis for WLA	TMDL Schedule
<b><i>Impairment Information in the Draft 2012 Integrated Report*</i></b>							
Accotink Creek	Recreation	<i>E. coli</i>	2.1 miles	Accotink Creek Bacteria 05/31/2002	None	Not expected to discharge pollutant	2002
	Aquatic Life	Benthic Macroinvertebrates	2.1 miles	No	NA	NA	TBD
Lake Accotink	Fish Consumption	Mercury in Fish Tissue	6.9 miles	No	NA	NA	2022
	Fish Consumption	PCBs in Fish Tissue	6.9 miles	No	NA	NA	2022

\*The Draft 2012 Integrated Report (IR) has been through the public comment period and reviewed by EPA. The 2012 IR is currently being finalized and prepared for release.

4. Is there monitoring or other conditions that Planning/Assessment needs in the permit?

There is a completed downstream TMDL for the aquatic life use impairment for the Chesapeake Bay. However, the Bay TMDL and the WLAs contained within the TMDL are not addressed in this planning statement.

Lake Accotink is listed as impaired for PBCs in Fish Tissue. A PCB TMDL for Lake Accotink is scheduled for development in 2022. While there is a downstream PCB impairment, the planning staff does not feel that it is necessary to have this facility perform PCB monitoring. The SIC code for this facility (5171) is not listed in PCB Guidance Memo 09-2001 as being a facility that is subject to monitoring requirements.

5. Fact Sheet Requirements – Please provide information regarding any drinking water intakes located within a 5 mile radius of the discharge point.

There are no drinking water intakes within a five mile radius of this facility.



# FRESHWATER WATER QUALITY CRITERIA / WASTELOAD ALLOCATION ANALYSIS

Facility Name: Motiva Enterprises - Fairfax 001

Permit No.: VA0002283

Receiving Stream: Crook Branch

Version: OWP Guidance Memo 00-2011 (8/24/00)

Stream Information		Stream Flows		Mixing Information		Effluent Information	
Mean Hardness (as CaCO <sub>3</sub> ) =	mg/L	1Q10 (Annual) =	0 MGD	Annual - 1Q10 Mix =	%	Mean Hardness (as CaCO <sub>3</sub> ) =	87.1 mg/L
90% Temperature (Annual) =	deg C	7Q10 (Annual) =	0 MGD	- 7Q10 Mix =	%	90% Temp (Annual) =	25 deg C
90% Temperature (Wet season) =	deg C	30Q10 (Annual) =	0 MGD	- 30Q10 Mix =	%	90% Temp (Wet season) =	15 deg C
90% Maximum pH =	SU	1Q10 (Wet season) =	0 MGD	Wet Season - 1Q10 Mix =	%	90% Maximum pH =	7.2 SU
10% Maximum pH =	SU	30Q10 (Wet season) =	0 MGD	- 30Q10 Mix =	%	10% Maximum pH =	6 SU
Tier Designation (1 or 2) =	1	30Q5 =	0 MGD			Discharge Flow =	0.048 MGD
Public Water Supply (PWS) Y/N? =	n	Harmonic Mean =	0 MGD				
Trout Present Y/N? =	n						
Early Life Stages Present Y/N? =	y						

Parameter (ug/l unless noted)	Background Conc.	Water Quality Criteria			Wasteload Allocations			Antidegradation Baseline			Antidegradation Allocations			Most Limiting Allocations		
		Acute	Chronic	HH (PWS)	Acute	Chronic	HH (PWS)	Acute	Chronic	HH (PWS)	Acute	Chronic	HH (PWS)	Acute	Chronic	HH (PWS)
Acenaphthene	0	--	--	na	--	--	na	--	--	--	--	--	--	--	--	9.9E+0
Acrolein	0	--	--	na	--	--	na	--	--	--	--	--	--	--	--	9.3E+0
Acrylonitrile <sup>c</sup>	0	--	--	na	--	--	na	--	--	--	--	--	--	--	--	2.5E+0
Aldrin <sup>c</sup>	0	3.0E+00	--	na	3.0E+00	--	na	3.0E+00	--	na	3.0E+00	--	na	3.0E+00	--	5.0E-0
Ammonia-N (mg/l) (Yearly)	0	2.95E+01	2.74E+00	na	2.95E+01	2.74E+00	na	--	--	--	--	--	--	2.95E+01	2.74E+00	na
Ammonia-N (mg/l) (High Flow)	0	2.95E+01	5.22E+00	na	2.95E+01	5.22E+00	na	--	--	--	--	--	--	2.95E+01	5.22E+00	na
Anthracene	0	--	--	na	--	--	na	4.0E+04	--	na	4.0E+04	--	na	--	--	4.0E+0
Antimony	0	--	--	na	6.4E+02	--	na	6.4E+02	--	na	6.4E+02	--	na	--	--	6.4E+0
Arsenic	0	3.4E+02	1.5E+02	na	3.4E+02	1.5E+02	na	--	--	--	--	--	--	3.4E+02	1.5E+02	na
Barium	0	--	--	na	--	--	na	--	--	--	--	--	--	--	--	na
Benzene <sup>c</sup>	0	--	--	na	5.1E+02	--	na	5.1E+02	--	na	5.1E+02	--	na	--	--	5.1E+0
Benzidine <sup>c</sup>	0	--	--	na	2.0E-03	--	na	2.0E-03	--	na	2.0E-03	--	na	--	--	2.0E-0
Benzo (a) anthracene <sup>c</sup>	0	--	--	na	1.8E-01	--	na	1.8E-01	--	na	1.8E-01	--	na	--	--	1.8E-0
Benzo (b) fluoranthene <sup>c</sup>	0	--	--	na	1.8E-01	--	na	1.8E-01	--	na	1.8E-01	--	na	--	--	1.8E-0
Benzo (k) fluoranthene <sup>c</sup>	0	--	--	na	1.8E-01	--	na	1.8E-01	--	na	1.8E-01	--	na	--	--	1.8E-0
Benzo (a) pyrene <sup>c</sup>	0	--	--	na	5.3E+00	--	na	5.3E+00	--	na	5.3E+00	--	na	--	--	5.3E+0
Bis(2-Chloroethyl) Ether <sup>c</sup>	0	--	--	na	6.5E+04	--	na	6.5E+04	--	na	6.5E+04	--	na	--	--	6.5E+0
Bis(2-Chloroisopropyl) Ether	0	--	--	na	2.2E+01	--	na	2.2E+01	--	na	2.2E+01	--	na	--	--	2.2E+0
Bis 2-Ethylhexyl Phthalate <sup>c</sup>	0	--	--	na	1.4E+03	--	na	1.4E+03	--	na	1.4E+03	--	na	--	--	1.4E+0
Bromofom <sup>c</sup>	0	--	--	na	1.9E+03	--	na	1.9E+03	--	na	1.9E+03	--	na	--	--	1.9E+0
Butylbenzylphthalate	0	3.4E+00	1.0E+00	na	3.4E+00	1.0E+00	na	--	--	--	--	--	--	3.4E+00	1.0E+00	na
Cadmium	0	--	--	na	1.6E+01	--	na	1.6E+01	--	na	1.6E+01	--	na	--	--	1.6E+0
Carbon Tetrachloride <sup>c</sup>	0	2.4E+00	4.3E-03	na	2.4E+00	4.3E-03	na	8.1E-03	--	na	8.1E-03	--	na	2.4E+00	4.3E-03	na
Chlordane <sup>c</sup>	0	8.6E+05	2.3E+05	na	8.6E+05	2.3E+05	na	--	--	--	--	--	--	8.6E+05	2.3E+05	na
Chloride	0	1.9E+01	1.1E+01	na	1.9E+01	1.1E+01	na	--	--	--	--	--	--	1.9E+01	1.1E+01	na
TRC	0	--	--	na	1.6E+03	--	na	1.6E+03	--	na	1.6E+03	--	na	--	--	1.6E+0
Chlorobenzene	0	--	--	na	1.6E+03	--	na	1.6E+03	--	na	1.6E+03	--	na	--	--	1.6E+0

Parameter (ug/l unless noted)	Background Conc.	Water Quality Criteria			Wasteload Allocations			Antidegradation Baseline			Antidegradation Allocations			Most Limiting Allocations		
		Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)
Chlorobromomethane <sup>c</sup>	0	--	--	na	1.3E+02	--	--	na	1.3E+02	--	--	--	--	--	--	na
Chloroform	0	--	--	na	1.1E+04	--	--	na	1.1E+04	--	--	--	--	--	--	na
2-Chloronaphthalene	0	--	--	na	1.6E+03	--	--	na	1.6E+03	--	--	--	--	--	--	na
2-Chlorophenol	0	--	--	na	1.5E+02	--	--	na	1.5E+02	--	--	--	--	--	--	na
Chlorpyrifos	0	8.3E-02	4.1E-02	na	--	8.3E-02	4.1E-02	na	--	--	--	--	--	8.3E-02	4.1E-02	na
Chromium III	0	5.1E+02	6.6E+01	na	--	5.1E+02	6.6E+01	na	--	--	--	--	--	5.1E+02	6.6E+01	na
Chromium VI	0	1.6E+01	1.1E+01	na	--	1.6E+01	1.1E+01	na	--	--	--	--	--	1.6E+01	1.1E+01	na
Chromium, Total	0	--	--	1.0E+02	--	--	--	na	--	--	--	--	--	--	--	na
Chrysene <sup>c</sup>	0	--	--	na	1.8E-02	--	--	na	1.8E-02	--	--	--	--	--	--	na
Copper	0	1.2E+01	8.0E+00	na	--	1.2E+01	8.0E+00	na	--	--	--	--	--	1.2E+01	8.0E+00	na
Cyanide, Free	0	2.2E+01	5.2E+00	na	1.6E+04	2.2E+01	5.2E+00	na	1.6E+04	--	--	--	--	2.2E+01	5.2E+00	na
DDD <sup>c</sup>	0	--	--	na	3.1E-03	--	--	na	3.1E-03	--	--	--	--	--	--	na
DDE <sup>c</sup>	0	--	--	na	2.2E-03	--	--	na	2.2E-03	--	--	--	--	--	--	na
DDT <sup>c</sup>	0	1.1E+00	1.0E-03	na	2.2E-03	1.1E+00	1.0E-03	na	2.2E-03	--	--	--	--	1.1E+00	1.0E-03	na
Demeton	0	--	1.0E-01	na	--	--	1.0E-01	na	--	--	--	--	--	--	1.0E-01	na
Diazinon	0	1.7E-01	1.7E-01	na	--	1.7E-01	1.7E-01	na	--	--	--	--	--	1.7E-01	1.7E-01	na
Dibenz(a,h)anthracene <sup>c</sup>	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	na
1,2-Dichlorobenzene	0	--	--	na	1.3E+03	--	--	na	1.3E+03	--	--	--	--	--	--	na
1,3-Dichlorobenzene	0	--	--	na	9.6E+02	--	--	na	9.6E+02	--	--	--	--	--	--	na
1,4-Dichlorobenzene	0	--	--	na	1.9E+02	--	--	na	1.9E+02	--	--	--	--	--	--	na
3,3-Dichlorobenzidine <sup>c</sup>	0	--	--	na	2.8E-01	--	--	na	2.8E-01	--	--	--	--	--	--	na
Dichlorobromomethane <sup>c</sup>	0	--	--	na	1.7E+02	--	--	na	1.7E+02	--	--	--	--	--	--	na
1,2-Dichloroethane <sup>c</sup>	0	--	--	na	3.7E+02	--	--	na	3.7E+02	--	--	--	--	--	--	na
1,1-Dichloroethylene	0	--	--	na	7.1E+03	--	--	na	7.1E+03	--	--	--	--	--	--	na
1,2-trans-dichloroethylene	0	--	--	na	1.0E+04	--	--	na	1.0E+04	--	--	--	--	--	--	na
2,4-Dichlorophenol	0	--	--	na	2.9E+02	--	--	na	2.9E+02	--	--	--	--	--	--	na
2,4-Dichlorophenoxy acetic acid (2,4-D)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	na
1,3-Dichloropropane <sup>c</sup>	0	--	--	na	1.5E+02	--	--	na	1.5E+02	--	--	--	--	--	--	na
1,3-Dichloropropene <sup>c</sup>	0	--	--	na	2.1E+02	--	--	na	2.1E+02	--	--	--	--	--	--	na
Dieldrin <sup>c</sup>	0	2.4E-01	5.6E-02	na	5.4E-04	2.4E-01	5.6E-02	na	5.4E-04	--	--	--	--	2.4E-01	5.6E-02	na
Diethyl Phthalate	0	--	--	na	4.4E+04	--	--	na	4.4E+04	--	--	--	--	--	--	na
2,4-Dimethylphenol	0	--	--	na	8.5E+02	--	--	na	8.5E+02	--	--	--	--	--	--	na
Dimethyl Phthalate	0	--	--	na	1.1E+06	--	--	na	1.1E+06	--	--	--	--	--	--	na
Di-n-Butyl Phthalate	0	--	--	na	4.5E+03	--	--	na	4.5E+03	--	--	--	--	--	--	na
2,4 Dinitrophenol	0	--	--	na	5.3E+03	--	--	na	5.3E+03	--	--	--	--	--	--	na
2-Methyl-4,6-Dinitrophenol	0	--	--	na	2.8E+02	--	--	na	2.8E+02	--	--	--	--	--	--	na
2,4-Dinitrotoluene <sup>c</sup>	0	--	--	na	3.4E+01	--	--	na	3.4E+01	--	--	--	--	--	--	na
Dioxin 2,3,7,8- tetrachlorodibenzo-p-dioxin	0	--	--	na	5.1E-08	--	--	na	5.1E-08	--	--	--	--	--	--	na
1,2-Diphenylhydrazine <sup>c</sup>	0	--	--	na	2.0E+00	--	--	na	2.0E+00	--	--	--	--	--	--	na
Alpha-Endosulfan	0	2.2E-01	5.6E-02	na	8.9E+01	2.2E-01	5.6E-02	na	8.9E+01	--	--	--	--	2.2E-01	5.6E-02	na
Beta-Endosulfan	0	2.2E-01	5.6E-02	na	8.9E+01	2.2E-01	5.6E-02	na	8.9E+01	--	--	--	--	2.2E-01	5.6E-02	na
Alpha + Beta Endosulfan	0	2.2E-01	5.6E-02	--	--	2.2E-01	5.6E-02	--	--	--	--	--	--	2.2E-01	5.6E-02	--
Endosulfan Sulfate	0	--	--	na	8.9E+01	--	--	na	8.9E+01	--	--	--	--	--	--	na
Endrin	0	8.8E-02	3.6E-02	na	6.0E-02	8.8E-02	3.6E-02	na	6.0E-02	--	--	--	--	8.8E-02	3.6E-02	na
Endrin Aldehyde	0	--	--	na	3.0E-01	--	--	na	3.0E-01	--	--	--	--	--	--	na

Parameter (ug/l unless noted)	Background Conc.	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
		Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Ethylbenzene	0	--	--	na	2.1E+03	--	--	na	2.1E+03	--	--	--	--	--	--	--	--	--	--	na	2.1E+0
Fluoranthene	0	--	--	na	1.4E+02	--	--	na	1.4E+02	--	--	--	--	--	--	--	--	--	--	na	1.4E+0
Fluorene	0	--	--	na	5.3E+03	--	--	na	5.3E+03	--	--	--	--	--	--	--	--	--	--	na	5.3E+0
Foaming Agents	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Guthion	0	--	1.0E-02	na	--	--	1.0E-02	na	--	--	--	--	--	--	--	1.0E-02	na	--	1.0E-02	na	--
Heptachlor <sup>c</sup>	0	5.2E-01	3.8E-03	na	7.9E-04	5.2E-01	3.8E-03	na	7.9E-04	--	--	--	--	--	--	5.2E-01	3.8E-03	na	3.8E-03	na	7.9E-0
Heptachlor Epoxide <sup>c</sup>	0	5.2E-01	3.8E-03	na	3.9E-04	5.2E-01	3.8E-03	na	3.9E-04	--	--	--	--	--	--	5.2E-01	3.8E-03	na	3.8E-03	na	3.9E-0
Hexachlorobenzene <sup>c</sup>	0	--	--	na	2.9E-03	--	--	na	2.9E-03	--	--	--	--	--	--	--	--	--	--	na	2.9E-0
Hexachlorobutadiene <sup>c</sup>	0	--	--	na	1.8E+02	--	--	na	1.8E+02	--	--	--	--	--	--	--	--	--	--	na	1.8E+0
Hexachlorocyclohexane	0	--	--	na	4.9E-02	--	--	na	4.9E-02	--	--	--	--	--	--	--	--	--	--	na	4.9E-0
Alpha-BHC <sup>c</sup>	0	--	--	na	1.7E-01	--	--	na	1.7E-01	--	--	--	--	--	--	--	--	--	--	na	1.7E-0
Hexachlorocyclohexane	0	--	--	na	1.8E+00	9.5E-01	--	na	1.8E+00	--	--	--	--	--	--	9.5E-01	--	--	--	na	1.8E+0
Beta-BHC <sup>c</sup>	0	--	--	na	1.1E+03	--	--	na	1.1E+03	--	--	--	--	--	--	--	--	--	--	na	1.1E+0
Gamma-BHC <sup>c</sup> (Lindane)	0	--	--	na	3.3E+01	--	--	na	3.3E+01	--	--	--	--	--	--	--	--	--	--	na	3.3E+0
Hexachlorocyclopentadiene	0	--	--	na	--	--	2.0E+00	na	--	--	--	--	--	--	--	2.0E+00	na	--	--	na	--
Hexachloroethane <sup>c</sup>	0	--	2.0E+00	na	--	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	--	--	na	1.8E-0
Hydrogen Sulfide	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Indeno (1,2,3-cd) pyrene <sup>c</sup>	0	--	--	na	9.6E+03	--	--	na	9.6E+03	--	--	--	--	--	--	--	--	--	--	na	9.6E+0
Iron	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Isophorone <sup>c</sup>	0	--	0.0E+00	na	--	--	0.0E+00	na	--	--	--	--	--	--	--	0.0E+00	na	--	0.0E+00	na	--
Kapone	0	1.0E+02	1.1E+01	na	--	1.0E+02	1.1E+01	na	--	--	--	--	--	--	--	1.0E+02	1.1E+01	na	1.0E+01	na	--
Lead	0	--	1.0E-01	na	--	--	1.0E-01	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Malathion	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Manganese	0	1.4E+00	7.7E-01	--	--	1.4E+00	7.7E-01	--	--	--	--	--	--	--	--	1.4E+00	7.7E-01	--	--	na	--
Mercury	0	--	--	na	1.5E+03	--	--	na	1.5E+03	--	--	--	--	--	--	--	--	--	--	na	1.5E+0
Methyl Bromide	0	--	--	na	5.9E+03	--	--	na	5.9E+03	--	--	--	--	--	--	--	--	--	--	na	5.9E+0
Methylene Chloride <sup>c</sup>	0	--	3.0E-02	na	--	--	3.0E-02	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Methoxychlor	0	--	0.0E+00	na	--	--	0.0E+00	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Mirex	0	1.6E+02	1.8E+01	na	4.6E+03	1.6E+02	1.8E+01	na	4.6E+03	--	--	--	--	--	--	1.6E+02	1.8E+01	na	1.8E+01	na	4.6E+0
Nickel	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Nitrate (as N)	0	--	--	na	6.9E+02	--	--	na	6.9E+02	--	--	--	--	--	--	--	--	--	--	na	6.9E+0
Nitrobenzene	0	--	--	na	3.0E+01	--	--	na	3.0E+01	--	--	--	--	--	--	--	--	--	--	na	3.0E+0
N-Nitrosodimethylamine <sup>c</sup>	0	--	--	na	6.0E+01	--	--	na	6.0E+01	--	--	--	--	--	--	--	--	--	--	na	6.0E+0
N-Nitrosodiphenylamine <sup>c</sup>	0	--	--	na	5.1E+00	--	--	na	5.1E+00	--	--	--	--	--	--	--	--	--	--	na	5.1E+0
N-Nitrosodi-n-propylamine <sup>c</sup>	0	2.8E+01	6.6E+00	--	--	2.8E+01	6.6E+00	na	--	--	--	--	--	--	--	2.8E+01	6.6E+00	na	6.6E+00	na	--
Nonylphenol	0	6.5E-02	1.3E-02	na	--	6.5E-02	1.3E-02	na	--	--	--	--	--	--	--	6.5E-02	1.3E-02	na	1.3E-02	na	--
Parathion	0	--	1.4E-02	na	6.4E-04	--	1.4E-02	na	6.4E-04	--	--	--	--	--	--	--	--	--	--	na	6.4E-0
PCB Total <sup>c</sup>	0	3.2E+00	2.4E+00	na	3.0E+01	3.2E+00	2.4E+00	na	3.0E+01	--	--	--	--	--	--	3.2E+00	2.4E+00	na	2.4E+00	na	3.0E+0
Pentachlorophenol <sup>c</sup>	0	--	--	na	8.6E+05	--	--	na	8.6E+05	--	--	--	--	--	--	--	--	--	--	na	8.6E+0
Phenol	0	--	--	na	4.0E+03	--	--	na	4.0E+03	--	--	--	--	--	--	--	--	--	--	na	4.0E+0
Pyrene	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Radionuclides	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Gross Alpha Activity	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
(pCi/L)	0	--	--	na	4.0E+00	--	--	na	4.0E+00	--	--	--	--	--	--	--	--	--	--	na	4.0E+0
Beta and Photon Activity	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
(mrem/yr)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Radium 226 + 228 (pCi/L)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Uranium (ug/l)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--

Parameter (ug/l unless noted)	Background Conc.	Water Quality Criteria			Wasteload Allocations			Antidegradation Baseline			Antidegradation Allocations			Most Limiting Allocations		
		Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)
Selenium, Total Recoverable	0	2.0E+01	5.0E+00	na	4.2E+03	2.0E+01	5.0E+00	na	4.2E+03	--	--	--	--	2.0E+01	5.0E+00	na
Silver	0	2.7E+00	--	na	--	2.7E+00	--	na	--	--	--	--	--	2.7E+00	--	na
Sulfate	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	na
1,1,2,2-Tetrachloroethane <sup>c</sup>	0	--	--	na	4.0E+01	--	--	na	4.0E+01	--	--	--	--	--	--	na
Tetrachloroethylene <sup>c</sup>	0	--	--	na	3.3E+01	--	--	na	3.3E+01	--	--	--	--	--	--	na
Thallium	0	--	--	na	4.7E+01	--	--	na	4.7E+01	--	--	--	--	--	--	na
Toluene	0	--	--	na	6.0E+03	--	--	na	6.0E+03	--	--	--	--	--	--	na
Total dissolved solids	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	na
Toxaphene <sup>c</sup>	0	7.3E-01	2.0E-04	na	2.8E-03	7.3E-01	2.0E-04	na	2.8E-03	--	--	--	--	7.3E-01	2.0E-04	na
Tributyltin	0	4.6E-01	7.2E-02	na	--	4.6E-01	7.2E-02	na	--	--	--	--	--	4.6E-01	7.2E-02	na
1,2,4-Trichlorobenzene	0	--	--	na	7.0E+01	--	--	na	7.0E+01	--	--	--	--	--	--	na
1,1,2-Trichloroethane <sup>c</sup>	0	--	--	na	1.6E+02	--	--	na	1.6E+02	--	--	--	--	--	--	na
Trichloroethylene <sup>c</sup>	0	--	--	na	3.0E+02	--	--	na	3.0E+02	--	--	--	--	--	--	na
2,4,6-Trichlorophenol <sup>c</sup>	0	--	--	na	2.4E+01	--	--	na	2.4E+01	--	--	--	--	--	--	na
2-(2,4,5-Trichlorophenoxy) propionic acid (Silvex)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	na
Vinyl Chloride <sup>c</sup>	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	na
Zinc	0	1.0E+02	1.1E+02	na	2.6E+04	1.0E+02	1.1E+02	na	2.6E+04	--	--	--	--	1.0E+02	1.1E+02	na

Notes:

- All concentrations expressed as micrograms/liter (ug/l), unless noted otherwise
- Discharge flow is highest monthly average or Form 20 maximum for Industries and design flow for Municipals
- Metals measured as Dissolved, unless specified otherwise
- "C" indicates a carcinogenic parameter
- Regular WLAs are mass balances (minus background concentration) using the % of stream flow entered above under Mixing Information.  
Antidegradation WLAs are based upon a complete mix.  
Antideg. Baseline = (0.25(WQC - background conc.) + background conc.) for acute and chronic  
= (0.1(WQC - background conc.) + background conc.) for human health
- WLAs established at the following stream flows: 1Q10 for Acute, 30Q10 for Chronic Ammonia, 7Q10 for Other Chronic, 30Q5 for Non-carcinogens and Harmonic Mean for Carcinogens. To apply mixing ratios from a model set the stream flow equal to (mixing ratio - 1), effluent flow equal to 1 and 100% mix.

Metal	Target Value (SSTV)
Antimony	6.4E+02
Arsenic	9.0E+01
Barium	na
Cadmium	6.1E-01
Chromium III	4.0E+01
Chromium VI	6.4E+00
Copper	4.7E+00
Iron	na
Lead	6.8E+00
Manganese	na
Mercury	4.6E-01
Nickel	1.1E+01
Selenium	3.0E+00
Silver	1.1E+00
Zinc	4.2E+01

Note: do not use QL's lower than the minimum QL's provided in agency guidance

# FRESHWATER WATER QUALITY CRITERIA / WASTELOAD ALLOCATION ANALYSIS

Facility Name: Motiva Enterprises - Fairfax 002 Permit No.: VA0002283  
 Receiving Stream: Crook Branch  
 Version: OWP Guidance Memo 00-2011 (8/24/00)

Stream Information		Stream Flows		Mixing Information		Effluent Information	
Mean Hardness (as CaCO <sub>3</sub> ) =	mg/L	1Q10 (Annual) =	0 MGD	Annual - 1Q10 Mix =	%	Mean Hardness (as CaCO <sub>3</sub> ) =	147 mg/L
90% Temperature (Annual) =	deg C	7Q10 (Annual) =	0 MGD	- 7Q10 Mix =	%	90% Temp (Annual) =	25 deg C
90% Temperature (Wet season) =	deg C	30Q10 (Annual) =	0 MGD	- 30Q10 Mix =	%	90% Temp (Wet season) =	15 deg C
90% Maximum pH =	SU	1Q10 (Wet season) =	0 MGD	Wet Season - 1Q10 Mix =	%	90% Maximum pH =	7.8 SU
10% Maximum pH =	SU	30Q10 (Wet season) =	0 MGD	- 30Q10 Mix =	%	10% Maximum pH =	6.1 SU
Tier Designation (1 or 2) =	1	30Q5 =	0 MGD			Discharge Flow =	0.005 MGD
Public Water Supply (PWS) Y/N? =	n	Harmonic Mean =	0 MGD				
Trout Present Y/N? =	n						
Early Life Stages Present Y/N? =	y						

Parameter (ug/l unless noted)	Background Conc.	Water Quality Criteria			Wasteload Allocations			Antidegradation Baseline			Antidegradation Allocations			Most Limiting Allocations		
		Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)
Acenaphthene	0	--	--	na	9.9E+02	--	--	na	9.9E+02	--	--	--	--	--	--	na
Acrolein	0	--	--	na	9.3E+00	--	--	na	9.3E+00	--	--	--	--	--	--	na
Acrylonitrile <sup>c</sup>	0	--	--	na	2.5E+00	--	--	na	2.5E+00	--	--	--	--	--	--	na
Aldrin <sup>c</sup>	0	3.0E+00	--	na	5.0E-04	3.0E+00	--	na	5.0E-04	--	--	--	--	3.0E+00	--	na
Ammonia-N (mg/l)	0	1.21E+01	1.62E+00	na	--	1.21E+01	1.62E+00	na	--	--	--	--	--	1.21E+01	1.62E+00	na
(Yearly)																
Ammonia-N (mg/l)	0	1.21E+01	3.09E+00	na	--	1.21E+01	3.09E+00	na	--	--	--	--	--	1.21E+01	3.09E+00	na
(High Flow)																
Anthrathene	0	--	--	na	4.0E+04	--	--	na	4.0E+04	--	--	--	--	--	--	na
Antimony	0	3.4E+02	1.5E+02	na	6.4E+02	3.4E+02	1.5E+02	na	6.4E+02	--	--	--	--	3.4E+02	1.5E+02	na
Arsenic	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	na
Barium	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	na
Benzene <sup>c</sup>	0	--	--	na	5.1E+02	--	--	na	5.1E+02	--	--	--	--	--	--	na
Benzidine <sup>c</sup>	0	--	--	na	2.0E-03	--	--	na	2.0E-03	--	--	--	--	--	--	na
Benzo (a) anthracene <sup>c</sup>	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	na
Benzo (b) fluoranthene <sup>c</sup>	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	na
Benzo (k) fluoranthene <sup>c</sup>	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	na
Benzo (a) pyrene <sup>c</sup>	0	--	--	na	5.3E+00	--	--	na	5.3E+00	--	--	--	--	--	--	na
Bis(2-Chloroethyl) Ether <sup>c</sup>	0	--	--	na	6.5E+04	--	--	na	6.5E+04	--	--	--	--	--	--	na
Bis(2-Chloroisopropyl) Ether	0	--	--	na	2.2E+01	--	--	na	2.2E+01	--	--	--	--	--	--	na
Bis 2-Ethylhexyl Phthalate <sup>c</sup>	0	--	--	na	1.4E+03	--	--	na	1.4E+03	--	--	--	--	--	--	na
Bromofom <sup>c</sup>	0	--	--	na	1.9E+03	--	--	na	1.9E+03	--	--	--	--	--	--	na
Butylbenzylphthalate	0	6.1E+00	1.5E+00	na	--	6.1E+00	1.5E+00	na	--	--	--	--	--	6.1E+00	1.5E+00	na
Cadmium	0	--	--	na	1.6E+01	--	--	na	1.6E+01	--	--	--	--	--	--	na
Carbon Tetrachloride <sup>c</sup>	0	--	--	na	8.1E-03	2.4E+00	4.3E-03	na	8.1E-03	--	--	--	--	2.4E+00	4.3E-03	na
Chlordane <sup>c</sup>	0	2.4E+00	4.3E-03	na	--	8.6E+05	2.3E+05	na	--	--	--	--	--	8.6E+05	2.3E+05	na
Chloride	0	1.9E+01	1.1E+01	na	--	1.9E+01	1.1E+01	na	--	--	--	--	--	1.9E+01	1.1E+01	na
TRC	0	--	--	na	1.6E+03	--	--	na	1.6E+03	--	--	--	--	--	--	na
Chlorobenzene	0	--	--	na	1.6E+03	--	--	na	1.6E+03	--	--	--	--	--	--	na

Parameter (ug/l unless noted)	Background Conc.	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
		Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Chlorodibromomethane <sup>c</sup>	0	--	--	na	1.3E+02	--	--	na	1.3E+02	--	--	--	--	--	--	--	--	--	--	na	1.3E+0
Chloroform	0	--	--	na	1.1E+04	--	--	na	1.1E+04	--	--	--	--	--	--	--	--	--	--	na	1.1E+0
2-Chloronaphthalene	0	--	--	na	1.6E+03	--	--	na	1.6E+03	--	--	--	--	--	--	--	--	--	--	na	1.6E+0
2-Chlorophenol	0	--	--	na	1.5E+02	--	--	na	1.5E+02	--	--	--	--	--	--	--	--	--	--	na	1.5E+0
Chlorpyrifos	0	8.3E-02	4.1E-02	na	--	8.3E-02	4.1E-02	na	--	--	--	--	--	--	--	8.3E-02	4.1E-02	--	--	na	--
Chromium III	0	7.8E+02	1.0E+02	na	--	7.8E+02	1.0E+02	na	--	--	--	--	--	--	--	7.8E+02	1.0E+02	--	--	na	--
Chromium VI	0	1.6E+01	1.1E+01	na	--	1.6E+01	1.1E+01	na	--	--	--	--	--	--	--	1.6E+01	1.1E+01	--	--	na	--
Chromium, Total	0	--	--	1.0E+02	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Chrysene <sup>c</sup>	0	--	--	na	1.8E-02	--	--	na	1.8E-02	--	--	--	--	--	--	--	--	--	--	na	1.8E-0
Copper	0	1.9E+01	1.2E+01	na	--	1.9E+01	1.2E+01	na	--	--	--	--	--	--	--	1.9E+01	1.2E+01	--	--	na	--
Cyanide, Free	0	2.2E+01	5.2E+00	na	1.6E+04	2.2E+01	5.2E+00	na	1.6E+04	--	--	--	--	--	--	2.2E+01	5.2E+00	--	--	na	1.6E+0
DDD <sup>c</sup>	0	--	--	na	3.1E-03	--	--	na	3.1E-03	--	--	--	--	--	--	--	--	--	--	na	3.1E-0
DOE <sup>c</sup>	0	--	--	na	2.2E-03	--	--	na	2.2E-03	--	--	--	--	--	--	--	--	--	--	na	2.2E-0
DDT <sup>c</sup>	0	1.1E+00	1.0E-03	na	2.2E-03	1.1E+00	1.0E-03	na	2.2E-03	--	--	--	--	--	--	1.1E+00	1.0E-03	--	--	na	2.2E-0
Demeton	0	--	1.0E-01	na	--	--	1.0E-01	na	--	--	--	--	--	--	--	--	1.0E-01	--	--	na	--
Diazinon	0	1.7E-01	1.7E-01	na	--	1.7E-01	1.7E-01	na	--	--	--	--	--	--	--	1.7E-01	1.7E-01	--	--	na	--
Dibenz(a,h)anthracene <sup>c</sup>	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	--	--	na	1.8E-0
1,2-Dichlorobenzene	0	--	--	na	1.3E+03	--	--	na	1.3E+03	--	--	--	--	--	--	--	--	--	--	na	1.3E+0
1,3-Dichlorobenzene	0	--	--	na	9.6E+02	--	--	na	9.6E+02	--	--	--	--	--	--	--	--	--	--	na	9.6E+0
1,4-Dichlorobenzene	0	--	--	na	1.9E+02	--	--	na	1.9E+02	--	--	--	--	--	--	--	--	--	--	na	1.9E+0
3,3-Dichlorobenzidine <sup>c</sup>	0	--	--	na	2.8E-01	--	--	na	2.8E-01	--	--	--	--	--	--	--	--	--	--	na	2.8E-0
Dichlorobromomethane <sup>c</sup>	0	--	--	na	1.7E+02	--	--	na	1.7E+02	--	--	--	--	--	--	--	--	--	--	na	1.7E+0
1,2-Dichloroethane <sup>c</sup>	0	--	--	na	3.7E+02	--	--	na	3.7E+02	--	--	--	--	--	--	--	--	--	--	na	3.7E+0
1,1-Dichloroethylene	0	--	--	na	7.1E+03	--	--	na	7.1E+03	--	--	--	--	--	--	--	--	--	--	na	7.1E+0
1,2-trans-dichloroethylene	0	--	--	na	1.0E+04	--	--	na	1.0E+04	--	--	--	--	--	--	--	--	--	--	na	1.0E+0
2,4-Dichlorophenol	0	--	--	na	2.9E+02	--	--	na	2.9E+02	--	--	--	--	--	--	--	--	--	--	na	2.9E+0
2,4-Dichlorophenoxy acetic acid (2,4-D)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
1,2-Dichloropropane <sup>c</sup>	0	--	--	na	1.5E+02	--	--	na	1.5E+02	--	--	--	--	--	--	--	--	--	--	na	1.5E+0
1,3-Dichloropropene <sup>c</sup>	0	--	--	na	2.1E+02	--	--	na	2.1E+02	--	--	--	--	--	--	--	--	--	--	na	2.1E+0
Dieldrin <sup>c</sup>	0	2.4E-01	5.6E-02	na	5.4E-04	2.4E-01	5.6E-02	na	5.4E-04	--	--	--	--	--	--	2.4E-01	5.6E-02	--	--	na	5.4E-0
Diethyl Phthalate	0	--	--	na	4.4E+04	--	--	na	4.4E+04	--	--	--	--	--	--	--	--	--	--	na	4.4E+0
2,4-Dimethylphenol	0	--	--	na	8.5E+02	--	--	na	8.5E+02	--	--	--	--	--	--	--	--	--	--	na	8.5E+0
Dimethyl Phthalate	0	--	--	na	1.1E+06	--	--	na	1.1E+06	--	--	--	--	--	--	--	--	--	--	na	1.1E+0
Di-n-Butyl Phthalate	0	--	--	na	4.5E+03	--	--	na	4.5E+03	--	--	--	--	--	--	--	--	--	--	na	4.5E+0
2,4 Dinitrophenol	0	--	--	na	5.3E+03	--	--	na	5.3E+03	--	--	--	--	--	--	--	--	--	--	na	5.3E+0
2-Methyl-4,6-Dinitrophenol	0	--	--	na	2.8E+02	--	--	na	2.8E+02	--	--	--	--	--	--	--	--	--	--	na	2.8E+0
2,4-Dinitrotoluene <sup>c</sup>	0	--	--	na	3.4E+01	--	--	na	3.4E+01	--	--	--	--	--	--	--	--	--	--	na	3.4E+0
Dioxin 2,3,7,8-tetrachlorodibenzo-p-dioxin	0	--	--	na	5.1E-08	--	--	na	5.1E-08	--	--	--	--	--	--	--	--	--	--	na	5.1E-0
1,2-Diphenylhydrazine <sup>c</sup>	0	--	--	na	2.0E+00	--	--	na	2.0E+00	--	--	--	--	--	--	--	--	--	--	na	2.0E+0
Alpha-Endosulfan	0	2.2E-01	5.6E-02	na	8.9E+01	2.2E-01	5.6E-02	na	8.9E+01	--	--	--	--	--	--	2.2E-01	5.6E-02	--	--	na	8.9E+0
Beta-Endosulfan	0	2.2E-01	5.6E-02	na	8.9E+01	2.2E-01	5.6E-02	na	8.9E+01	--	--	--	--	--	--	2.2E-01	5.6E-02	--	--	na	8.9E+0
Alpha + Beta Endosulfan	0	2.2E-01	5.6E-02	--	--	2.2E-01	5.6E-02	--	--	--	--	--	--	--	--	2.2E-01	5.6E-02	--	--	--	--
Endosulfan Sulfate	0	--	--	na	8.9E+01	--	--	na	8.9E+01	--	--	--	--	--	--	--	--	--	--	na	8.9E+0
Endrin	0	8.6E-02	3.6E-02	na	6.0E-02	8.6E-02	3.6E-02	na	6.0E-02	--	--	--	--	--	--	8.6E-02	3.6E-02	--	--	na	6.0E-0
Endrin Aldehyde	0	--	--	na	3.0E-01	--	--	na	3.0E-01	--	--	--	--	--	--	--	--	--	--	na	3.0E-0

Parameter (ug/l unless noted)	Background Conc.	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
		Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Ethylbenzene	0	--	--	na	2.1E+03	--	--	na	2.1E+03	--	--	--	--	--	--	--	--	--	--	na	2.1E+0:
Fluoranthene	0	--	--	na	1.4E+02	--	--	na	1.4E+02	--	--	--	--	--	--	--	--	--	--	na	1.4E+0:
Fluorene	0	--	--	na	5.3E+03	--	--	na	5.3E+03	--	--	--	--	--	--	--	--	--	--	na	5.3E+0:
Foaming Agents	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Guthion	0	--	1.0E-02	na	--	--	1.0E-02	na	--	--	--	--	--	--	--	1.0E-02	na	--	--	na	--
Heptachlor <sup>c</sup>	0	5.2E-01	3.8E-03	na	7.9E-04	5.2E-01	3.8E-03	na	7.9E-04	--	--	--	--	--	--	5.2E-01	3.8E-03	5.2E-01	3.8E-03	na	7.9E-0:
Heptachlor Epoxide <sup>c</sup>	0	5.2E-01	3.8E-03	na	3.9E-04	5.2E-01	3.8E-03	na	3.9E-04	--	--	--	--	--	--	5.2E-01	3.8E-03	5.2E-01	3.8E-03	na	3.9E-0:
Hexachlorobenzene <sup>c</sup>	0	--	--	na	2.9E-03	--	--	na	2.9E-03	--	--	--	--	--	--	--	--	--	--	na	2.9E-0:
Hexachlorobutadiene <sup>c</sup>	0	--	--	na	1.8E+02	--	--	na	1.8E+02	--	--	--	--	--	--	--	--	--	--	na	1.8E+0:
Hexachlorocyclohexane	0	--	--	na	4.9E-02	--	--	na	4.9E-02	--	--	--	--	--	--	--	--	--	--	na	4.9E-0:
Alpha-BHC <sup>c</sup>	0	--	--	na	1.7E-01	--	--	na	1.7E-01	--	--	--	--	--	--	--	--	--	--	na	1.7E-0:
Beta-BHC <sup>c</sup>	0	--	--	na	1.8E+00	9.5E-01	--	na	1.8E+00	--	--	--	--	--	--	9.5E-01	--	--	--	na	1.8E+0:
Hexachlorocyclohexane	0	--	--	na	1.1E+03	--	--	na	1.1E+03	--	--	--	--	--	--	--	--	--	--	na	1.1E+0:
Gamma-BHC <sup>c</sup> (Lindane)	0	--	--	na	3.3E+01	--	--	na	3.3E+01	--	--	--	--	--	--	--	--	--	--	na	3.3E+0:
Hexachlorocyclopentadiene	0	--	2.0E+00	na	--	--	2.0E+00	na	--	--	--	--	--	--	--	--	--	--	2.0E+00	na	--
Hexachloroethane <sup>c</sup>	0	--	0.0E+00	na	--	--	0.0E+00	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Hydrogen Sulfide	0	1.9E+02	2.2E+01	na	--	1.9E+02	2.2E+01	na	--	--	--	--	--	--	--	1.9E+02	2.2E+01	1.9E+02	2.2E+01	na	--
Indeno (1,2,3-cd) pyrene <sup>c</sup>	0	--	1.0E-01	na	--	--	1.0E-01	na	--	--	--	--	--	--	--	--	1.0E-01	--	--	na	--
Iron	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	--	--	na	1.8E-0:
Isophorone <sup>c</sup>	0	--	--	na	9.6E+03	--	--	na	9.6E+03	--	--	--	--	--	--	--	--	--	--	na	9.6E+0:
Kepone	0	--	0.0E+00	na	--	--	0.0E+00	na	--	--	--	--	--	--	--	--	--	--	0.0E+00	na	--
Lead	0	1.9E+02	2.2E+01	na	--	1.9E+02	2.2E+01	na	--	--	--	--	--	--	--	1.9E+02	2.2E+01	1.9E+02	2.2E+01	na	--
Malathion	0	--	1.0E-01	na	--	--	1.0E-01	na	--	--	--	--	--	--	--	--	1.0E-01	--	--	na	--
Manganese	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Mercury	0	1.4E+00	7.7E-01	--	--	1.4E+00	7.7E-01	--	--	--	--	--	--	--	--	1.4E+00	7.7E-01	1.4E+00	7.7E-01	--	--
Methyl Bromide	0	--	--	na	1.5E+03	--	--	na	1.5E+03	--	--	--	--	--	--	--	--	--	--	na	1.5E+0:
Methylene Chloride <sup>c</sup>	0	--	--	na	5.9E+03	--	--	na	5.9E+03	--	--	--	--	--	--	--	--	--	--	na	5.9E+0:
Methoxychlor	0	--	3.0E-02	na	--	--	3.0E-02	na	--	--	--	--	--	--	--	--	3.0E-02	--	--	na	--
Mirex	0	--	0.0E+00	na	--	--	0.0E+00	na	--	--	--	--	--	--	--	--	0.0E+00	--	--	na	--
Nickel	0	2.5E+02	2.8E+01	na	4.6E+03	2.5E+02	2.8E+01	na	4.6E+03	--	--	--	--	--	--	2.5E+02	2.8E+01	2.5E+02	2.8E+01	na	4.6E+0:
Nitrate (as N)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Nitrobenzene	0	--	--	na	6.9E+02	--	--	na	6.9E+02	--	--	--	--	--	--	--	--	--	--	na	6.9E+0:
N-Nitrosodimethylamine <sup>c</sup>	0	--	--	na	3.0E+01	--	--	na	3.0E+01	--	--	--	--	--	--	--	--	--	--	na	3.0E+0:
N-Nitrosodiphenylamine <sup>c</sup>	0	--	--	na	6.0E+01	--	--	na	6.0E+01	--	--	--	--	--	--	--	--	--	--	na	6.0E+0:
N-Nitrosodi-n-propylamine <sup>c</sup>	0	--	--	na	5.1E+00	--	--	na	5.1E+00	--	--	--	--	--	--	--	--	--	--	na	5.1E+0:
Nonylphenol	0	2.8E+01	6.6E+00	--	--	2.8E+01	6.6E+00	na	--	--	--	--	--	--	--	2.8E+01	6.6E+00	2.8E+01	6.6E+00	na	--
Parathion	0	6.5E-02	1.3E-02	na	--	6.5E-02	1.3E-02	na	--	--	--	--	--	--	--	6.5E-02	1.3E-02	6.5E-02	1.3E-02	na	--
PCB Total <sup>c</sup>	0	--	1.4E-02	na	6.4E-04	--	1.4E-02	na	6.4E-04	--	--	--	--	--	--	--	1.4E-02	--	--	na	6.4E-04
Pentachlorophenol <sup>c</sup>	0	3.5E+00	2.7E+00	na	3.0E+01	3.5E+00	2.7E+00	na	3.0E+01	--	--	--	--	--	--	3.5E+00	2.7E+00	3.5E+00	2.7E+00	na	3.0E+0:
Phenol	0	--	--	na	8.6E+05	--	--	na	8.6E+05	--	--	--	--	--	--	--	--	--	--	na	8.6E+0:
Pyrene	0	--	--	na	4.0E+03	--	--	na	4.0E+03	--	--	--	--	--	--	--	--	--	--	na	4.0E+0:
Radionuclides	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Gross Alpha Activity (pCi/L)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Beta and Photon Activity (mrem/yr)	0	--	--	na	4.0E+00	--	--	na	4.0E+00	--	--	--	--	--	--	--	--	--	--	na	4.0E+0:
Radium 226 + 228 (pCi/L)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Uranium (ug/l)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--

Parameter (ug/l unless noted)	Background Conc.	Water Quality Criteria			Wasteload Allocations			Antidegradation Baseline			Antidegradation Allocations			Most Limiting Allocations		
		Acute	Chronic	HH (PWS)	Acute	Chronic	HH (PWS)	Acute	Chronic	HH (PWS)	Acute	Chronic	HH (PWS)	Acute	Chronic	HH (PWS)
Selenium, Total Recoverable	0	2.0E+01	5.0E+00	na	2.0E+01	5.0E+00	na	4.2E+03	--	--	--	--	--	2.0E+01	5.0E+00	na
Silver	0	6.7E+00	--	na	6.7E+00	--	na	--	--	--	--	--	--	6.7E+00	--	na
Sulfate	0	--	--	na	--	--	na	--	--	--	--	--	--	--	--	na
1,1,2,2-Tetrachloroethane <sup>c</sup>	0	--	--	na	4.0E+01	--	na	4.0E+01	--	--	--	--	--	--	--	na
Tetrachloroethylene <sup>c</sup>	0	--	--	na	3.3E+01	--	na	3.3E+01	--	--	--	--	--	--	--	na
Thallium	0	--	--	na	4.7E-01	--	na	4.7E-01	--	--	--	--	--	--	--	na
Toluene	0	--	--	na	6.0E+03	--	na	6.0E+03	--	--	--	--	--	--	--	na
Total dissolved solids	0	--	--	na	--	--	na	--	--	--	--	--	--	--	--	na
Toxaphene <sup>c</sup>	0	7.3E-01	2.0E-04	na	2.8E-03	2.0E-04	na	2.8E-03	--	--	--	--	--	7.3E-01	2.0E-04	na
Tributyltin	0	4.6E-01	7.2E-02	na	--	4.6E-01	7.2E-02	na	--	--	--	--	--	4.6E-01	7.2E-02	na
1,2,4-Trichlorobenzene	0	--	--	na	7.0E+01	--	na	7.0E+01	--	--	--	--	--	--	--	na
1,1,2-Trichloroethane <sup>c</sup>	0	--	--	na	1.6E+02	--	na	1.6E+02	--	--	--	--	--	--	--	na
Trichloroethylene <sup>c</sup>	0	--	--	na	3.0E+02	--	na	3.0E+02	--	--	--	--	--	--	--	na
2,4,6-Trichlorophenol <sup>c</sup>	0	--	--	na	2.4E+01	--	na	2.4E+01	--	--	--	--	--	--	--	na
2-(2,4,5-Trichlorophenoxy) propionic acid (Silvex)	0	--	--	na	--	--	na	--	--	--	--	--	--	--	--	na
Vinyl Chloride <sup>c</sup>	0	--	--	na	--	--	na	--	--	--	--	--	--	--	--	na
Zinc	0	1.6E+02	1.6E+02	na	2.6E+04	1.6E+02	na	2.6E+04	--	--	--	--	--	1.6E+02	1.6E+02	na

Notes:

- All concentrations expressed as micrograms/liter (ug/l), unless noted otherwise
- Discharge flow is highest monthly average or Form 20 maximum for Industries and design flow for Municipals
- Metals measured as Dissolved, unless specified otherwise
- "C" indicates a carcinogenic parameter
- Regular WLAs are mass balances (minus background concentration) using the % of stream flow entered above under Mixing Information.  
Antidegradation WLAs are based upon a complete mix.
- Antideg. Baseline = (0.25(WQC - background conc.) + background conc.) for acute and chronic  
= (0.1(WQC - background conc.) + background conc.) for human health
- WLAs established at the following stream flows: 1Q10 for Acute, 30Q10 for Chronic Ammonia, 7Q10 for Other Chronic, 30Q5 for Non-carcinogens and Harmonic Mean for Carcinogens. To apply mixing ratios from a model set the stream flow equal to (mixing ratio - 1), effluent flow equal to 1 and 100% mix.

Metal	Target Value (SSTV)
Antimony	6.4E+02
Arsenic	9.0E+01
Barium	na
Cadmium	9.2E-01
Chromium III	6.1E+01
Chromium VI	6.4E+00
Copper	7.5E+00
Iron	na
Lead	1.3E+01
Manganese	na
Mercury	4.6E-01
Nickel	1.7E+01
Selenium	3.0E+00
Silver	2.7E+00
Zinc	6.8E+01

Note: do not use QL's lower than the minimum QL's provided in agency guidance



Permit #: VA0002283

Facility: Motiva Enterprises LLC - Fairfax

Outfall	Rec'd	Parameter Description	QTY AVG	Lim Avg	QTY MAX	Lim Max	Quantity Unit Lim	CONC MIN	Lim Min	CONC AVG	Lim Avg	CONC MAX	Lim Max
001	08-Dec-2003	COPPER, DISSOLVED (UG/L AS CU)	NULL	*****	NULL	*****	NULL	NULL	*****	NULL	*****	0.0	NL
001	06-Jan-2004	COPPER, DISSOLVED (UG/L AS CU)	NULL	*****	NULL	*****	NULL	NULL	*****	NULL	*****	0.0	NL
001	09-Aug-2004	COPPER, DISSOLVED (UG/L AS CU)	NULL	*****	NULL	*****	NULL	NULL	*****	NULL	*****	<QL	NL
001	09-May-2005	COPPER, DISSOLVED (UG/L AS CU)	NULL	*****	NULL	*****	NULL	NULL	*****	NULL	*****	0.0	NL
001	09-Nov-2005	COPPER, DISSOLVED (UG/L AS CU)	NULL	*****	NULL	*****	NULL	NULL	*****	NULL	*****	<QL	NL
1	09-Aug-2006	COPPER, DISSOLVED (UG/L AS CU)	NULL	*****	NULL	*****	NULL	NULL	*****	NULL	*****	<QL	NL
001	09-Mar-2007	COPPER, DISSOLVED (UG/L AS CU)	NULL	*****	NULL	*****	NULL	NULL	*****	NULL	*****	<QL	NL
001	09-Jun-2008	COPPER, DISSOLVED (UG/L AS CU)	NULL	*****	NULL	*****	NULL	NULL	*****	NULL	*****	<QL	NL
001	06-Nov-2009	COPPER, DISSOLVED (UG/L AS CU)	NULL	*****	NULL	*****	NULL	NULL	*****	NULL	*****	6.0	NL
001	08-Jun-2012	COPPER, DISSOLVED (UG/L AS CU)	NULL	*****	NULL	*****	NULL	NULL	*****	NULL	*****	<QL	NL
001	09-Apr-2013	COPPER, DISSOLVED (UG/L AS CU)	NULL	*****	NULL	*****	NULL	NULL	*****	NULL	*****	<10	NL
001	08-Dec-2003	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	NULL	*****	NULL	*****	NULL	NULL	*****	NULL	*****	<QL	NL
001	06-Jan-2004	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	NULL	*****	NULL	*****	NULL	NULL	*****	<QL	15	NULL	*****
001	09-Mar-2004	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	NULL	*****	NULL	*****	NULL	NULL	*****	NULL	15	0.0	*****
001	10-May-2004	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	NULL	*****	NULL	*****	NULL	NULL	*****	NULL	15	0.0	*****
001	09-Jul-2004	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	NULL	*****	NULL	*****	NULL	NULL	*****	NULL	15	0.0	*****
001	09-Aug-2004	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	NULL	*****	NULL	*****	NULL	NULL	*****	0.7	15	NULL	*****
001	10-Sep-2004	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	NULL	*****	NULL	*****	NULL	NULL	*****	<QL	15	NULL	*****
001	12-Oct-2004	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	NULL	*****	NULL	*****	NULL	NULL	*****	0.0	15	0.0	*****
001	09-Dec-2004	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	NULL	*****	NULL	*****	NULL	NULL	*****	0.0	15	NULL	*****
001	10-Jan-2005	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	NULL	*****	NULL	*****	NULL	NULL	*****	0.0	15	NULL	*****
001	10-Feb-2005	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	NULL	*****	NULL	*****	NULL	NULL	*****	0.0	15	NULL	*****
001	11-Apr-2005	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	NULL	*****	NULL	*****	NULL	NULL	*****	0.0	15	NULL	*****
001	09-May-2005	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	NULL	*****	NULL	*****	NULL	NULL	*****	0.0	15	NULL	*****

001	09-Jun-2005	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	NULL	*****	NULL	*****	NULL	NULL	*****	0.0	15	NULL	*****
001	07-Jul-2005	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	NULL	*****	NULL	*****	NULL	NULL	*****	<QL	15	NULL	*****
001	10-Aug-2005	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	NULL	*****	NULL	*****	NULL	NULL	*****	0.0	15	NULL	*****
001	09-Nov-2005	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	NULL	*****	NULL	*****	NULL	NULL	*****	<QL	15	NULL	*****
001	09-Dec-2005	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	NULL	*****	NULL	*****	NULL	NULL	*****	NULL	*****	<QL	15
001	07-Feb-2006	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	NULL	*****	NULL	*****	NULL	NULL	*****	NULL	*****	<QL	15
001	08-Mar-2006	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	NULL	*****	NULL	*****	NULL	NULL	*****	NULL	*****	<QL	15
001	09-May-2006	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	NULL	*****	NULL	*****	NULL	NULL	*****	NULL	*****	<QL	15
001	10-Jul-2006	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	NULL	*****	NULL	*****	NULL	NULL	*****	NULL	*****	0.4	15
001	09-Aug-2006	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	NULL	*****	NULL	*****	NULL	NULL	*****	NULL	*****	<QL	15
001	08-Sep-2006	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	NULL	*****	NULL	*****	NULL	NULL	*****	NULL	*****	NULL	15
001	10-Oct-2006	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	NULL	*****	NULL	*****	NULL	NULL	*****	NULL	*****	<QL	15
001	13-Nov-2006	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	NULL	*****	NULL	*****	NULL	NULL	*****	NULL	*****	<QL	15
001	07-Dec-2006	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	NULL	*****	NULL	*****	NULL	NULL	*****	NULL	*****	<QL	15
001	05-Feb-2007	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	NULL	*****	NULL	*****	NULL	NULL	*****	NULL	*****	<QL	15
001	09-Mar-2007	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	NULL	*****	NULL	*****	NULL	NULL	*****	NULL	*****	<QL	15
001	09-Apr-2007	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	NULL	*****	NULL	*****	NULL	NULL	*****	<QL	*****	<QL	15
001	09-May-2007	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	NULL	*****	NULL	*****	NULL	NULL	*****	NULL	*****	<QL	15
001	09-Oct-2007	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	NULL	*****	NULL	*****	NULL	NULL	*****	NULL	*****	<QL	15
001	13-Nov-2007	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	NULL	*****	NULL	*****	NULL	NULL	*****	NULL	*****	<QL	15
001	10-Dec-2007	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	NULL	*****	NULL	*****	NULL	NULL	*****	NULL	*****	<QL	15
001	08-Jan-2008	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	NULL	*****	NULL	*****	NULL	NULL	*****	NULL	*****	0.193	15

001	08-Feb-2008	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	NULL	*****	NULL	*****	NULL	*****	NULL	*****	NULL	*****	<QL	15
001	10-Mar-2008	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	NULL	*****	NULL	*****	NULL	*****	NULL	*****	NULL	*****	<QL	15
001	10-Apr-2008	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	NULL	*****	NULL	*****	NULL	*****	NULL	*****	NULL	*****	0.095	15
001	07-May-2008	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	NULL	*****	NULL	*****	NULL	*****	NULL	*****	NULL	*****	0.210	15
001	09-Jun-2008	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	NULL	*****	NULL	*****	NULL	*****	NULL	*****	NULL	*****	0.124	15
001	10-Jul-2008	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	NULL	*****	NULL	*****	NULL	*****	NULL	*****	NULL	*****	0.050	15
001	11-Aug-2008	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	NULL	*****	NULL	*****	NULL	*****	NULL	*****	NULL	*****	0.526	15
001	08-Oct-2008	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	NULL	*****	NULL	*****	NULL	*****	NULL	*****	NULL	*****	0.253	15
001	10-Nov-2008	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	NULL	*****	NULL	*****	NULL	*****	NULL	*****	NULL	*****	0.123	15
001	04-Dec-2008	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	NULL	*****	NULL	*****	NULL	*****	NULL	*****	NULL	*****	<QL	15
001	08-Jan-2009	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	NULL	*****	NULL	*****	NULL	*****	NULL	*****	NULL	*****	0.074	15
001	09-Feb-2009	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	NULL	*****	NULL	*****	NULL	*****	NULL	*****	NULL	*****	<QL	15
001	07-May-2009	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	NULL	*****	NULL	*****	NULL	*****	NULL	*****	NULL	*****	0.149	15
001	09-Jun-2009	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	NULL	*****	NULL	*****	NULL	*****	NULL	*****	NULL	*****	0.170	15
001	09-Jul-2009	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	NULL	*****	NULL	*****	NULL	*****	NULL	*****	NULL	*****	0.128	15
001	07-Aug-2009	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	NULL	*****	NULL	*****	NULL	*****	NULL	*****	NULL	*****	0.125	15
001	09-Sep-2009	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	NULL	*****	NULL	*****	NULL	*****	NULL	*****	NULL	*****	0.124	15
001	06-Nov-2009	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	NULL	*****	NULL	*****	NULL	*****	NULL	*****	NULL	*****	0.204	15
001	08-Dec-2009	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	NULL	*****	NULL	*****	NULL	*****	NULL	*****	NULL	*****	0.075	15
001	08-Jan-2010	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	NULL	*****	NULL	*****	NULL	*****	NULL	*****	NULL	*****	0.057	15
001	05-Feb-2010	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	NULL	*****	NULL	*****	NULL	*****	NULL	*****	NULL	*****	0.079	15
001	08-Mar-2010	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	NULL	*****	NULL	*****	NULL	*****	NULL	*****	NULL	*****	0.061	15

001	09-Apr-2010	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	NULL	*****	NULL	*****	NULL	*****	NULL	NULL	*****	NULL	*****	0.241	15
001	07-May-2010	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	NULL	*****	NULL	*****	NULL	*****	NULL	NULL	*****	NULL	*****	0.092	15
001	10-Jun-2010	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	NULL	*****	NULL	*****	NULL	*****	NULL	NULL	*****	NULL	*****	0.122	15
001	09-Aug-2010	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	NULL	*****	NULL	*****	NULL	*****	NULL	NULL	*****	NULL	*****	0.115	15
001	09-Sep-2010	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	NULL	*****	NULL	*****	NULL	*****	NULL	NULL	*****	NULL	*****	0.109	15
001	07-Oct-2010	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	NULL	*****	NULL	*****	NULL	*****	NULL	NULL	*****	NULL	*****	0.189	15
001	10-Nov-2010	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	NULL	*****	NULL	*****	NULL	*****	NULL	NULL	*****	NULL	*****	0.075	15
001	09-Dec-2010	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	NULL	*****	NULL	*****	NULL	*****	NULL	NULL	*****	NULL	*****	<QL	15
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001	10-Jun-2011	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	NULL	*****	NULL	*****	NULL	*****	NULL	NULL	*****	NULL	*****	0.06	15
001	08-Jul-2011	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	NULL	*****	NULL	*****	NULL	*****	NULL	NULL	*****	NULL	*****	0.059	15
001	09-Aug-2011	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	NULL	*****	NULL	*****	NULL	*****	NULL	NULL	*****	NULL	*****	<QL	15
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001	09-Mar-2012	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	NULL	*****	NULL	*****	NULL	*****	NULL	NULL	*****	NULL	*****	<QL	15
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001	08-Apr-2013	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	NULL	*****	NULL	*****	NULL	*****	NULL	*****	NULL	*****	<QL	15
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001	09-Mar-2004	PH	NULL	*****	NULL	*****	NULL	*****	NULL	*****	6.40	6.0	6.4	9.0
001	10-May-2004	PH	NULL	*****	NULL	*****	NULL	*****	NULL	*****	7.07	6.0	7.07	9.0
001	09-Jul-2004	PH	NULL	*****	NULL	*****	NULL	*****	NULL	*****	7.36	6.0	7.36	9.0
001	09-Aug-2004	PH	NULL	*****	NULL	*****	NULL	*****	NULL	*****	6.47	6.0	6.47	9.0
001	10-Sep-2004	PH	NULL	*****	NULL	*****	NULL	*****	NULL	*****	6.45	6.0	6.45	9.0
001	12-Oct-2004	PH	NULL	*****	NULL	*****	NULL	*****	NULL	*****	6.45	6.0	6.45	9.0
001	09-Dec-2004	PH	NULL	*****	NULL	*****	NULL	*****	NULL	*****	6.26	6.0	6.26	9.0
001	10-Jan-2005	PH	NULL	*****	NULL	*****	NULL	*****	NULL	*****	6.30	6.0	6.3	9.0
001	10-Feb-2005	PH	NULL	*****	NULL	*****	NULL	*****	NULL	*****	6.58	6.0	6.58	9.0
001	11-Apr-2005	PH	NULL	*****	NULL	*****	NULL	*****	NULL	*****	6.33	6.0	6.33	9.0
001	09-May-2005	PH	NULL	*****	NULL	*****	NULL	*****	NULL	*****	6.06	6.0	6.06	9.0
001	09-Jun-2005	PH	NULL	*****	NULL	*****	NULL	*****	NULL	*****	6.45	6.0	6.45	9.0
001	07-Jul-2005	PH	NULL	*****	NULL	*****	NULL	*****	NULL	*****	6.45	6.0	6.45	9.0
001	10-Aug-2005	PH	NULL	*****	NULL	*****	NULL	*****	NULL	*****	6.48	6.0	6.48	9.0
001	09-Nov-2005	PH	NULL	*****	NULL	*****	NULL	*****	NULL	*****	6.21	6.0	6.21	9.0
001	09-Dec-2005	PH	NULL	*****	NULL	*****	NULL	*****	NULL	*****	6.05	6.0	6.05	9.0
001	07-Feb-2006	PH	NULL	*****	NULL	*****	NULL	*****	NULL	*****	6.02	6.0	6.02	9.0
001	08-Mar-2006	PH	NULL	*****	NULL	*****	NULL	*****	NULL	*****	6.43	6.0	6.43	9.0
001	09-May-2006	PH	NULL	*****	NULL	*****	NULL	*****	NULL	*****	6.14	6.0	6.14	9.0
001	10-Jul-2006	PH	NULL	*****	NULL	*****	NULL	*****	NULL	*****	6.38	6.0	6.38	9.0
001	09-Aug-2006	PH	NULL	*****	NULL	*****	NULL	*****	NULL	*****	6.22	6.0	6.22	9.0
001	10-Oct-2006	PH	NULL	*****	NULL	*****	NULL	*****	NULL	*****	6.72	6.0	6.72	9.0

001	13-Nov-2006	PH	NULL	*****	NULL	*****	NULL	6.32	6.0	NULL	*****	6.32	9.0
001	07-Dec-2006	PH	NULL	*****	NULL	*****	NULL	6.01	6.0	NULL	*****	6.01	9.0
001	05-Feb-2007	PH	NULL	*****	NULL	*****	NULL	6.17	6.0	NULL	*****	6.17	9.0
001	09-Mar-2007	PH	NULL	*****	NULL	*****	NULL	6.74	6.0	NULL	*****	6.74	9.0
001	09-Apr-2007	PH	NULL	*****	NULL	*****	NULL	6.30	6.0	NULL	*****	6.3	9.0
001	09-May-2007	PH	NULL	*****	NULL	*****	NULL	6.04	6.0	NULL	*****	6.04	9.0
001	09-Oct-2007	PH	NULL	*****	NULL	*****	NULL	6.20	6.0	NULL	*****	6.2	9.0
001	13-Nov-2007	PH	NULL	*****	NULL	*****	NULL	6.80	6.0	NULL	*****	6.8	9.0
001	10-Dec-2007	PH	NULL	*****	NULL	*****	NULL	6.60	6.0	NULL	*****	6.6	9.0
001	08-Jan-2008	PH	NULL	*****	NULL	*****	NULL	7.42	6.0	NULL	*****	7.42	9.0
001	08-Feb-2008	PH	NULL	*****	NULL	*****	NULL	6.11	6.0	NULL	*****	6.11	9.0
001	10-Mar-2008	PH	NULL	*****	NULL	*****	NULL	6.09	6.0	NULL	*****	6.09	9.0
001	10-Apr-2008	PH	NULL	*****	NULL	*****	NULL	6.28	6.0	NULL	*****	6.28	9.0
001	07-May-2008	PH	NULL	*****	NULL	*****	NULL	6.24	6.0	NULL	*****	6.24	9.0
001	09-Jun-2008	PH	NULL	*****	NULL	*****	NULL	6.03	6.0	NULL	*****	6.03	9.0
001	10-Jul-2008	PH	NULL	*****	NULL	*****	NULL	7.17	6.0	NULL	*****	7.17	9.0
001	11-Aug-2008	PH	NULL	*****	NULL	*****	NULL	6.81	6.0	NULL	*****	6.81	9.0
001	08-Oct-2008	PH	NULL	*****	NULL	*****	NULL	7.46	6.0	NULL	*****	7.46	9.0
001	10-Nov-2008	PH	NULL	*****	NULL	*****	NULL	6.02	6.0	NULL	*****	6.02	9.0
001	04-Dec-2008	PH	NULL	*****	NULL	*****	NULL	6.04	6.0	NULL	*****	6.04	9.0
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001	09-Jun-2009	PH	NULL	*****	NULL	*****	NULL	6.05	6.0	NULL	*****	6.05	9.0
001	09-Jul-2009	PH	NULL	*****	NULL	*****	NULL	6.20	6.0	NULL	*****	6.2	9.0
001	07-Aug-2009	PH	NULL	*****	NULL	*****	NULL	6.08	6.0	NULL	*****	6.08	9.0
001	09-Sep-2009	PH	NULL	*****	NULL	*****	NULL	6.13	6.0	NULL	*****	6.13	9.0
001	06-Nov-2009	PH	NULL	*****	NULL	*****	NULL	6.36	6.0	NULL	*****	6.65	9.0
001	08-Dec-2009	PH	NULL	*****	NULL	*****	NULL	6.13	6.0	NULL	*****	6.13	9.0
001	08-Jan-2010	PH	NULL	*****	NULL	*****	NULL	6.11	6.0	NULL	*****	6.11	9.0
001	05-Feb-2010	PH	NULL	*****	NULL	*****	NULL	6.14	6.0	NULL	*****	6.14	9.0
001	08-Mar-2010	PH	NULL	*****	NULL	*****	NULL	6.22	6.0	NULL	*****	6.22	9.0
001	09-Apr-2010	PH	NULL	*****	NULL	*****	NULL	6.93	6.0	NULL	*****	6.93	9.0
001	07-May-2010	PH	NULL	*****	NULL	*****	NULL	6.57	6.0	NULL	*****	6.57	9.0
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001	09-Aug-2010	PH	NULL	*****	NULL	*****	NULL	6.35	6.0	NULL	*****	6.35	9.0
001	09-Sep-2010	PH	NULL	*****	NULL	*****	NULL	6.56	6.0	NULL	*****	6.56	9.0
001	07-Oct-2010	PH	NULL	*****	NULL	*****	NULL	6.21	6.0	NULL	*****	6.21	9.0
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001	09-Dec-2010	PH	NULL	*****	NULL	*****	NULL	6.73	6.0	NULL	*****	6.73	9.0
001	09-Mar-2011	PH	NULL	*****	NULL	*****	NULL	6.10	6.0	NULL	*****	6.1	9.0
001	08-Apr-2011	PH	NULL	*****	NULL	*****	NULL	6.28	6.0	NULL	*****	6.28	9.0
001	10-May-2011	PH	NULL	*****	NULL	*****	NULL	6.43	6.0	NULL	*****	6.43	9.0

001	10-Jun-2011	PH				*****	NULL	*****	NULL	6.10	6.0	NULL	*****	6.1	9.0
001	08-Jul-2011	PH				*****	NULL	*****	NULL	6.03	6.0	NULL	*****	6.03	9.0
001	09-Aug-2011	PH				*****	NULL	*****	NULL	6.04	6.0	NULL	*****	6.04	9.0
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001	08-Dec-2011	PH				*****	NULL	*****	NULL	6.84	6.0	NULL	*****	6.84	9.0
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001	10-Apr-2012	PH				*****	NULL	*****	NULL	7.24	6.0	NULL	*****	7.24	9.0
001	08-Jun-2012	PH				*****	NULL	*****	NULL	6.36	6.0	NULL	*****	6.36	9.0
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													90th	7.2	
													10th	6.0	
001	08-Dec-2003	ZINC, DISSOLVED (AS ZN) (UG/L)				*****	NULL	*****	NULL	NULL	*****	NULL	*****	50	NL
001	06-Jan-2004	ZINC, DISSOLVED (AS ZN) (UG/L)				*****	NULL	*****	NULL	NULL	*****	NULL	*****	50	NL
001	09-Aug-2004	ZINC, DISSOLVED (AS ZN) (UG/L)				*****	NULL	*****	NULL	NULL	*****	NULL	*****	40	NL
001	09-May-2005	ZINC, DISSOLVED (AS ZN) (UG/L)				*****	NULL	*****	NULL	NULL	*****	NULL	*****	0.06	NL
001	09-Aug-2006	ZINC, DISSOLVED (AS ZN) (UG/L)				*****	NULL	*****	NULL	NULL	*****	NULL	*****	63.8	NL
001	09-Mar-2007	ZINC, DISSOLVED (AS ZN) (UG/L)				*****	NULL	*****	NULL	NULL	*****	NULL	*****	117.0	NL
001	09-Jun-2008	ZINC, DISSOLVED (AS ZN) (UG/L)				*****	NULL	*****	NULL	NULL	*****	NULL	*****	40.0	NL
001	06-Nov-2009	ZINC, DISSOLVED (AS ZN) (UG/L)				*****	NULL	*****	NULL	NULL	*****	NULL	*****	0.039	NL
001	08-Jun-2012	ZINC, DISSOLVED (AS ZN) (UG/L)				*****	NULL	*****	NULL	NULL	*****	NULL	*****	<20	NL
001	09-Apr-2013	ZINC, DISSOLVED (AS ZN) (UG/L)				*****	NULL	*****	NULL	NULL	*****	NULL	*****	111	NL
002	06-Jan-2004	BENZENE (AS C6H6)				*****	NULL	*****	NULL	NULL	*****	NULL	*****	<QL	78
002	07-Apr-2004	BENZENE (AS C6H6)				*****	NULL	*****	NULL	NULL	*****	NULL	*****	<QL	78
002	12-Oct-2004	BENZENE (AS C6H6)				*****	NULL	*****	NULL	NULL	*****	0.0	*****	0.0	78
002	10-Jan-2005	BENZENE (AS C6H6)				*****	NULL	*****	NULL	NULL	*****	0.0	*****	0.0	78
002	11-Apr-2005	BENZENE (AS C6H6)				*****	NULL	*****	NULL	NULL	*****	0.0	*****	0.0	78
002	07-Jul-2005	BENZENE (AS C6H6)				*****	NULL	*****	NULL	NULL	*****	<QL	*****	<QL	78
002	11-Oct-2005	BENZENE (AS C6H6)				*****	NULL	*****	NULL	NULL	*****	<QL	*****	<QL	78
002	10-Jan-2006	BENZENE (AS C6H6)				*****	NULL	*****	NULL	NULL	*****	<QL	*****	<QL	78
002	06-Apr-2006	BENZENE (AS C6H6)				*****	NULL	*****	NULL	NULL	*****	<QL	*****	<QL	78

Assume  
forget  
to  
convert



002	10-Oct-2006	BENZENE (AS C6H6)	NULL	*****	NULL	*****	NULL	*****	NULL	*****	<QL	50	<QL	78
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002	20-Nov-2006	BENZENE (AS C6H6)	NULL	*****	NULL	*****	NULL	*****	NULL	*****	<QL	50	<QL	78
002	10-Apr-2007	BENZENE (AS C6H6)	NULL	*****	NULL	*****	NULL	*****	NULL	*****	NR	50	NR	78
002	05-Jul-2007	BENZENE (AS C6H6)	NULL	*****	NULL	*****	NULL	*****	NULL	*****	<QL	50	<QL	78
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002	08-Jan-2008	BENZENE (AS C6H6)	NULL	*****	NULL	*****	NULL	*****	NULL	*****	<QL	50	<QL	78
002	10-Apr-2008	BENZENE (AS C6H6)	NULL	*****	NULL	*****	NULL	*****	NULL	*****	<QL	50	<QL	78
002	10-Jul-2008	BENZENE (AS C6H6)	NULL	*****	NULL	*****	NULL	*****	NULL	*****	<QL	50	<QL	78
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002	11-Oct-2011	BENZENE (AS C6H6)	NULL	*****	NULL	*****	NULL	*****	NULL	*****	NULL	*****	<QL	50
002	10-Jan-2012	BENZENE (AS C6H6)	NULL	*****	NULL	*****	NULL	*****	NULL	*****	NULL	*****	<QL	50
002	10-Apr-2012	BENZENE (AS C6H6)	NULL	*****	NULL	*****	NULL	*****	NULL	*****	NULL	*****	<QL	50
002	09-Jul-2012	BENZENE (AS C6H6)	NULL	*****	NULL	*****	NULL	*****	NULL	*****	NULL	*****	<QL	50
002	04-Oct-2012	BENZENE (AS C6H6)	NULL	*****	NULL	*****	NULL	*****	NULL	*****	NULL	*****	<QL	50
002	10-Jan-2013	BENZENE (AS C6H6)	NULL	*****	NULL	*****	NULL	*****	NULL	*****	NULL	*****	<QL	50
002	06-Jan-2004	ETHYLBENZENE	NULL	*****	NULL	*****	NULL	*****	NULL	*****	<QL	320	<QL	468
002	07-Apr-2004	ETHYLBENZENE	NULL	*****	NULL	*****	NULL	*****	NULL	*****	<QL	320	<QL	468
002	12-Oct-2004	ETHYLBENZENE	NULL	*****	NULL	*****	NULL	*****	NULL	*****	0.0	320	0.0	468
002	10-Jan-2005	ETHYLBENZENE	NULL	*****	NULL	*****	NULL	*****	NULL	*****	0.0	320	0.0	468
002	11-Apr-2005	ETHYLBENZENE	NULL	34.9	NULL	51.0	NULL	*****	NULL	*****	0.0	320	0.0	468
002	07-Jul-2005	ETHYLBENZENE	NULL	*****	NULL	*****	NULL	*****	NULL	*****	<QL	320	<QL	468
002	11-Oct-2005	ETHYLBENZENE	NULL	*****	NULL	*****	NULL	*****	NULL	*****	<QL	320	<QL	468
002	10-Jan-2006	ETHYLBENZENE	NULL	*****	NULL	*****	NULL	*****	NULL	*****	<QL	320	<QL	468
002	06-Apr-2006	ETHYLBENZENE	NULL	*****	NULL	*****	NULL	*****	NULL	*****	<QL	320	<QL	468
002	07-Jun-2006	ETHYLBENZENE	NULL	*****	NULL	*****	NULL	*****	NULL	*****	NR	320	NR	468
002	10-Oct-2006	ETHYLBENZENE	NULL	*****	NULL	*****	NULL	*****	NULL	*****	<QL	320	<QL	468
002	13-Nov-2006	ETHYLBENZENE	NULL	*****	NULL	*****	NULL	*****	NULL	*****	<QL	320	<QL	468
002	20-Nov-2006	ETHYLBENZENE	NULL	*****	NULL	*****	NULL	*****	NULL	*****	<QL	320	<QL	468
002	10-Apr-2007	ETHYLBENZENE	NULL	*****	NULL	*****	NULL	*****	NULL	*****	<QL	320	<QL	468
002	05-Jul-2007	ETHYLBENZENE	NULL	*****	NULL	*****	NULL	*****	NULL	*****	<QL	320	<QL	468
002	09-Oct-2007	ETHYLBENZENE	NULL	*****	NULL	*****	NULL	*****	NULL	*****	<QL	320	<QL	468





002	20-Nov-2006	HARDNESS, TOTAL (AS CACO3)	NULL	*****	NULL	*****	NULL	*****	NULL	174	50	NULL	*****	NULL	*****
002	05-Jul-2007	HARDNESS, TOTAL (AS CACO3)	NULL	*****	NULL	*****	NULL	*****	NULL	252	50	NULL	*****	NULL	*****
002	09-Oct-2007	HARDNESS, TOTAL (AS CACO3)	NULL	*****	NULL	*****	NULL	*****	NULL	92.3	50	NULL	*****	NULL	*****
002	08-Jan-2008	HARDNESS, TOTAL (AS CACO3)	NULL	*****	NULL	*****	NULL	*****	NULL	68.5	50	NULL	*****	NULL	*****
002	10-Apr-2008	HARDNESS, TOTAL (AS CACO3)	NULL	*****	NULL	*****	NULL	*****	NULL	220	50	NULL	*****	NULL	*****
002	10-Jul-2008	HARDNESS, TOTAL (AS CACO3)	NULL	*****	NULL	*****	NULL	*****	NULL	79.3	50	NULL	*****	NULL	*****
002	08-Oct-2008	HARDNESS, TOTAL (AS CACO3)	NULL	*****	NULL	*****	NULL	*****	NULL	163	50	NULL	*****	NULL	*****
002	08-Jan-2009	HARDNESS, TOTAL (AS CACO3)	NULL	*****	NULL	*****	NULL	*****	NULL	65.7	50	NULL	*****	NULL	*****
002	08-Apr-2009	HARDNESS, TOTAL (AS CACO3)	NULL	*****	NULL	*****	NULL	*****	NULL	120	50	NULL	*****	NULL	*****
002	09-Jul-2009	HARDNESS, TOTAL (AS CACO3)	NULL	*****	NULL	*****	NULL	*****	NULL	228	50	NULL	*****	NULL	*****
002	08-Oct-2009	HARDNESS, TOTAL (AS CACO3)	NULL	*****	NULL	*****	NULL	*****	NULL	148	50	NULL	*****	NULL	*****
002	08-Jan-2010	HARDNESS, TOTAL (AS CACO3)	NULL	*****	NULL	*****	NULL	*****	NULL	235	50	NULL	*****	NULL	*****
002	10-Apr-2010	HARDNESS, TOTAL (AS CACO3)	NULL	*****	NULL	*****	NULL	*****	NULL	227	50	NULL	*****	NULL	*****
002	09-Jul-2010	HARDNESS, TOTAL (AS CACO3)	NULL	*****	NULL	*****	NULL	*****	NULL	315	50	NULL	*****	NULL	*****
002	07-Oct-2010	HARDNESS, TOTAL (AS CACO3)	NULL	*****	NULL	*****	NULL	*****	NULL	130	50	NULL	*****	NULL	*****
002	10-Jan-2011	HARDNESS, TOTAL (AS CACO3)	NULL	*****	NULL	*****	NULL	*****	NULL	112	50	NULL	*****	NULL	*****
002	08-Apr-2011	HARDNESS, TOTAL (AS CACO3)	NULL	*****	NULL	*****	NULL	*****	NULL	168	50	NULL	*****	NULL	*****
002	08-Jul-2011	HARDNESS, TOTAL (AS CACO3)	NULL	*****	NULL	*****	NULL	*****	NULL	237	50	NULL	*****	NULL	*****
002	11-Oct-2011	HARDNESS, TOTAL (AS CACO3)	NULL	*****	NULL	*****	NULL	*****	NULL	83.9	50	NULL	*****	NULL	*****
002	10-Jan-2012	HARDNESS, TOTAL (AS CACO3)	NULL	*****	NULL	*****	NULL	*****	NULL	312	50	NULL	*****	NULL	*****
002	10-Apr-2012	HARDNESS, TOTAL (AS CACO3)	NULL	*****	NULL	*****	NULL	*****	NULL	103.63	50	NULL	*****	NULL	*****
002	09-Jul-2012	HARDNESS, TOTAL (AS CACO3)	NULL	*****	NULL	*****	NULL	*****	NULL	262	50	NULL	*****	NULL	*****
002	04-Oct-2012	HARDNESS, TOTAL (AS CACO3)	NULL	*****	NULL	*****	NULL	*****	NULL	126.6	50	NULL	*****	NULL	*****
									AVG	147					
002	06-Jan-2004	NAPHTHALENE (AS C10H8)	NULL	*****	NULL	*****	NULL	*****	NULL	NULL	*****	<QL	62	<QL	91
002	07-Apr-2004	NAPHTHALENE (AS C10H8)	NULL	*****	NULL	*****	NULL	*****	NULL	NULL	*****	0.6	62	0.6	91
002	12-Oct-2004	NAPHTHALENE (AS C10H8)	NULL	*****	NULL	*****	NULL	*****	NULL	NULL	*****	0.0	62	0.0	91
002	10-Jan-2005	NAPHTHALENE (AS C10H8)	NULL	*****	NULL	*****	NULL	*****	NULL	NULL	*****	0.0	62	0.0	91
002	11-Apr-2005	NAPHTHALENE (AS C10H8)	NULL	6.8	NULL	9.9	NULL	*****	NULL	NULL	*****	0.0	62	0.0	91
002	07-Jul-2005	NAPHTHALENE (AS C10H8)	NULL	*****	NULL	*****	NULL	*****	NULL	NULL	*****	<QL	62	<QL	91
002	11-Oct-2005	NAPHTHALENE (AS C10H8)	NULL	*****	NULL	*****	NULL	*****	NULL	NULL	*****	<QL	62	<QL	91
002	10-Jan-2006	NAPHTHALENE (AS C10H8)	NULL	*****	NULL	*****	NULL	*****	NULL	NULL	*****	<QL	62	<QL	91
002	06-Apr-2006	NAPHTHALENE (AS C10H8)	NULL	*****	NULL	*****	NULL	*****	NULL	NULL	*****	<QL	62	<QL	91
002	10-Oct-2006	NAPHTHALENE (AS C10H8)	NULL	*****	NULL	*****	NULL	*****	NULL	NULL	*****	<QL	62	<QL	91
002	13-Nov-2006	NAPHTHALENE (AS C10H8)	NULL	*****	NULL	*****	NULL	*****	NULL	NULL	*****	<QL	62	<QL	91
002	20-Nov-2006	NAPHTHALENE (AS C10H8)	NULL	*****	NULL	*****	NULL	*****	NULL	NULL	*****	<QL	62	<QL	91
002	05-Jul-2007	NAPHTHALENE (AS C10H8)	NULL	*****	NULL	*****	NULL	*****	NULL	NULL	*****	<QL	62	<QL	91
002	09-Oct-2007	NAPHTHALENE (AS C10H8)	NULL	*****	NULL	*****	NULL	*****	NULL	NULL	*****	<QL	62	<QL	91
002	08-Jan-2008	NAPHTHALENE (AS C10H8)	NULL	*****	NULL	*****	NULL	*****	NULL	NULL	*****	<QL	62	<QL	91
002	10-Apr-2008	NAPHTHALENE (AS C10H8)	NULL	*****	NULL	*****	NULL	*****	NULL	NULL	*****	<QL	62	<QL	91
002	10-Jul-2008	NAPHTHALENE (AS C10H8)	NULL	*****	NULL	*****	NULL	*****	NULL	NULL	*****	<QL	62	<QL	10
002	08-Oct-2008	NAPHTHALENE (AS C10H8)	NULL	*****	NULL	*****	NULL	*****	NULL	NULL	*****	NULL	*****	<QL	10

002	08-Jan-2009	NAPHTHALENE (AS C10H8)	NULL	*****	NULL	*****	NULL	*****	NULL	*****	NULL	*****	0.7	10
002	08-Apr-2009	NAPHTHALENE (AS C10H8)	NULL	*****	NULL	*****	NULL	*****	NULL	*****	NULL	*****	<QL	10
002	09-Jul-2009	NAPHTHALENE (AS C10H8)	NULL	*****	NULL	*****	NULL	*****	NULL	*****	NULL	*****	<QL	10
002	08-Oct-2009	NAPHTHALENE (AS C10H8)	NULL	*****	NULL	*****	NULL	*****	NULL	*****	NULL	*****	<QL	10
002	08-Jan-2010	NAPHTHALENE (AS C10H8)	NULL	*****	NULL	*****	NULL	*****	NULL	*****	NULL	*****	<QL	10
002	10-Apr-2010	NAPHTHALENE (AS C10H8)	NULL	*****	NULL	*****	NULL	*****	NULL	*****	NULL	*****	<QL	10
002	09-Jul-2010	NAPHTHALENE (AS C10H8)	NULL	*****	NULL	*****	NULL	*****	NULL	*****	NULL	*****	<QL	10
002	07-Oct-2010	NAPHTHALENE (AS C10H8)	NULL	*****	NULL	*****	NULL	*****	NULL	*****	NULL	*****	<QL	10
002	10-Jan-2011	NAPHTHALENE (AS C10H8)	NULL	*****	NULL	*****	NULL	*****	NULL	*****	NULL	*****	0.156	10
002	08-Apr-2011	NAPHTHALENE (AS C10H8)	NULL	*****	NULL	*****	NULL	*****	NULL	*****	NULL	*****	0.191	10
002	08-Jul-2011	NAPHTHALENE (AS C10H8)	NULL	*****	NULL	*****	NULL	*****	NULL	*****	NULL	*****	<QL	10
002	11-Oct-2011	NAPHTHALENE (AS C10H8)	NULL	*****	NULL	*****	NULL	*****	NULL	*****	NULL	*****	<QL	10
002	10-Jan-2012	NAPHTHALENE (AS C10H8)	NULL	*****	NULL	*****	NULL	*****	NULL	*****	NULL	*****	<QL	10
002	10-Apr-2012	NAPHTHALENE (AS C10H8)	NULL	*****	NULL	*****	NULL	*****	NULL	*****	NULL	*****	<QL	10
002	09-Jul-2012	NAPHTHALENE (AS C10H8)	NULL	*****	NULL	*****	NULL	*****	NULL	*****	NULL	*****	<QL	10
002	04-Oct-2012	NAPHTHALENE (AS C10H8)	NULL	*****	NULL	*****	NULL	*****	NULL	*****	NULL	*****	<QL	10
002	08-Feb-2000	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	NULL	NULL	0.0	NULL	NULL	0.0	NULL	NULL	NULL	NULL	0.0	NULL
002	07-Mar-2000	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	NULL	NULL	0.0	NULL	NULL	0.0	NULL	NULL	NULL	NULL	0.0	NULL
002	09-Mar-2000	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	NULL	NULL	0.0	NULL	NULL	0.0	NULL	NULL	NULL	NULL	0.0	NULL
002	06-Apr-2000	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	NULL	NULL	0.0	NULL	NULL	0.0	NULL	NULL	NULL	NULL	0.0	NULL
002	06-Jan-2004	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	NULL	*****	NULL	*****	NULL	*****	NULL	*****	NULL	*****	<QL	10
002	07-Apr-2004	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	NULL	*****	NULL	*****	NULL	*****	NULL	*****	NULL	*****	<QL	10
002	12-Oct-2004	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	NULL	*****	NULL	*****	NULL	*****	NULL	*****	0.0	*****	0.0	10
002	10-Jan-2005	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	NULL	*****	NULL	*****	NULL	*****	NULL	*****	NULL	*****	0.0	10
002	11-Apr-2005	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	NULL	*****	NULL	*****	1.7	*****	NULL	*****	NULL	*****	0.0	10
002	07-Jul-2005	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	NULL	*****	NULL	*****	*****	*****	NULL	*****	NULL	*****	<QL	10
002	11-Oct-2005	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	NULL	*****	NULL	*****	*****	*****	NULL	*****	NULL	*****	<QL	10
002	10-Jan-2006	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	NULL	*****	NULL	*****	*****	*****	NULL	*****	NULL	*****	<QL	10
002	06-Apr-2006	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	NULL	*****	NULL	*****	*****	*****	NULL	*****	NULL	*****	0.414	10
002	10-Oct-2006	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	NULL	*****	NULL	*****	*****	*****	NULL	*****	NULL	*****	<QL	10
002	13-Nov-2006	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE	NULL	*****	NULL	*****	*****	*****	NULL	*****	NULL	*****	<QL	10





002	10-Jan-2005	PH		NULL	*****	NULL	*****	NULL	7.01	6.0	NULL	*****	7.01	9.0
002	11-Apr-2005	PH		NULL	*****	NULL	*****	NULL	6.63	6.0	NULL	*****	6.63	9.0
002	07-Jul-2005	PH		NULL	*****	NULL	*****	NULL	6.87	6.0	NULL	*****	6.87	9.0
002	11-Oct-2005	PH		NULL	*****	NULL	*****	NULL	6.47	6.0	NULL	*****	6.47	9.0
002	10-Jan-2006	PH		NULL	*****	NULL	*****	NULL	6.28	6.0	NULL	*****	6.28	9.0
002	06-Apr-2006	PH		NULL	*****	NULL	*****	NULL	6.27	6.0	NULL	*****	6.27	9.0
002	10-Oct-2006	PH		NULL	*****	NULL	*****	NULL	6.88	6.0	NULL	*****	6.88	9.0
002	13-Nov-2006	PH		NULL	*****	NULL	*****	NULL	6.65	6.0	NULL	*****	6.65	9.0
002	20-Nov-2006	PH		NULL	*****	NULL	*****	NULL	6.65	6.0	NULL	*****	6.65	9.0
002	05-Jul-2007	PH		NULL	*****	NULL	*****	NULL	7.12	6.0	NULL	*****	7.48	9.0
002	09-Oct-2007	PH		NULL	*****	NULL	*****	NULL	7.28	6.0	NULL	*****	7.89	9.0
002	08-Jan-2008	PH		NULL	*****	NULL	*****	NULL	7.60	6.0	NULL	*****	8.17	9.0
002	10-Apr-2008	PH		NULL	*****	NULL	*****	NULL	7.19	6.0	NULL	*****	7.5	9.0
002	10-Jul-2008	PH		NULL	*****	NULL	*****	NULL	7.19	6.0	NULL	*****	7.19	9.0
002	08-Jan-2009	PH		NULL	*****	NULL	*****	NULL	6.80	6.0	NULL	*****	8.88	9.0
002	08-Apr-2009	PH		NULL	*****	NULL	*****	NULL	7.19	6.0	NULL	*****	8.35	9.0
002	09-Jul-2009	PH		NULL	*****	NULL	*****	NULL	7.18	6.0	NULL	*****	7.29	9.0
002	08-Oct-2009	PH		NULL	*****	NULL	*****	NULL	6.76	6.0	NULL	*****	6.85	9.0
002	08-Jan-2010	PH		NULL	*****	NULL	*****	NULL	6.63	6.0	NULL	*****	6.63	9.0
002	10-Apr-2010	PH		NULL	*****	NULL	*****	NULL	6.40	6.0	NULL	*****	6.4	9.0
002	09-Jul-2010	PH		NULL	*****	NULL	*****	NULL	6.41	6.0	NULL	*****	6.41	9.0
002	07-Oct-2010	PH		NULL	*****	NULL	*****	NULL	6.09	6.0	NULL	*****	6.09	9.0
002	10-Jan-2011	PH		NULL	*****	NULL	*****	NULL	6.18	6.0	NULL	*****	6.18	9.0
002	08-Apr-2011	PH		NULL	*****	NULL	*****	NULL	6.12	6.0	NULL	*****	6.22	9.0
002	08-Jul-2011	PH		NULL	*****	NULL	*****	NULL	6.13	6.0	NULL	*****	6.13	9.0
002	11-Oct-2011	PH		NULL	*****	NULL	*****	NULL	6.07	6.0	NULL	*****	6.07	9.0
002	10-Jan-2012	PH		NULL	*****	NULL	*****	NULL	6.23	6.0	NULL	*****	6.23	9.0
002	10-Apr-2012	PH		NULL	*****	NULL	*****	NULL	6.23	6.0	NULL	*****	6.23	9.0
002	09-Jul-2012	PH		NULL	*****	NULL	*****	NULL	6.09	6.0	NULL	*****	6.09	9.0
002	04-Oct-2012	PH		NULL	*****	NULL	*****	NULL	6.18	6.0	NULL	*****	6.18	9.0
002	10-Jan-2013	PH		NULL	*****	NULL	*****	NULL	6.57	6.0	NULL	*****	6.57	9.0
												90th	7.8	
												10th	6.1	
002	08-Feb-2000	TOLUENE (AS C7H8)		0.0	NULL	0.0	NULL	NULL	NULL	NULL	0.0	NULL	0.0	NULL
002	07-Mar-2000	TOLUENE (AS C7H8)		0.0	NULL	0.0	NULL	NULL	NULL	NULL	0.0	NULL	0.0	NULL
002	09-Mar-2000	TOLUENE (AS C7H8)		0.0	NULL	0.0001	NULL	NULL	NULL	NULL	1.00	NULL	1.00	NULL
002	06-Apr-2000	TOLUENE (AS C7H8)		.0001	NULL	.0002	NULL	NULL	NULL	NULL	1.10	NULL	1.10	NULL
002	06-Jan-2004	TOLUENE (AS C7H8)		NULL	*****	NULL	*****	NULL	NULL	NULL	<QL	175	<QL	256
002	07-Apr-2004	TOLUENE (AS C7H8)		NULL	*****	NULL	*****	NULL	NULL	NULL	<QL	175	<QL	256
002	12-Oct-2004	TOLUENE (AS C7H8)		NULL	*****	NULL	*****	NULL	NULL	NULL	0.0	175	0.0	256
002	10-Jan-2005	TOLUENE (AS C7H8)		NULL	*****	NULL	*****	NULL	NULL	NULL	0.0	175	0.0	256
002	11-Apr-2005	TOLUENE (AS C7H8)		NULL	19.1	NULL	27.9	NULL	NULL	NULL	0.0	175	0.0	256







002	08-Oct-2009	ZINC, TOTAL RECOVERABLE	NULL	*****	NULL	*****	NULL	*****	NULL	*****	NULL	*****	6.40	53
002	08-Jan-2010	ZINC, TOTAL RECOVERABLE	NULL	*****	NULL	*****	NULL	*****	NULL	*****	NULL	*****	10.00	53
002	10-Apr-2010	ZINC, TOTAL RECOVERABLE	NULL	*****	NULL	*****	NULL	*****	NULL	*****	NULL	*****	8.00	53
002	09-Jul-2010	ZINC, TOTAL RECOVERABLE	NULL	*****	NULL	*****	NULL	*****	NULL	*****	NULL	*****	3.00	53
002	07-Oct-2010	ZINC, TOTAL RECOVERABLE	NULL	*****	NULL	*****	NULL	*****	NULL	*****	NULL	*****	<QL	53
002	10-Jan-2011	ZINC, TOTAL RECOVERABLE	NULL	*****	NULL	*****	NULL	*****	NULL	*****	NULL	*****	5.00	53
002	08-Apr-2011	ZINC, TOTAL RECOVERABLE	NULL	*****	NULL	*****	NULL	*****	NULL	*****	NULL	*****	3.00	53
002	08-Jul-2011	ZINC, TOTAL RECOVERABLE	NULL	*****	NULL	*****	NULL	*****	NULL	*****	NULL	*****	5.50	53
002	11-Oct-2011	ZINC, TOTAL RECOVERABLE	NULL	*****	NULL	*****	NULL	*****	NULL	*****	NULL	*****	4.8	53
002	10-Jan-2012	ZINC, TOTAL RECOVERABLE	NULL	*****	NULL	*****	NULL	*****	NULL	*****	NULL	*****	5.9	53
002	10-Apr-2012	ZINC, TOTAL RECOVERABLE	NULL	*****	NULL	*****	NULL	*****	NULL	*****	NULL	*****	6.3	53
002	09-Jul-2012	ZINC, TOTAL RECOVERABLE	NULL	*****	NULL	*****	NULL	*****	NULL	*****	NULL	*****	4.0	53
002	04-Oct-2012	ZINC, TOTAL RECOVERABLE	NULL	*****	NULL	*****	NULL	*****	NULL	*****	NULL	*****	8.8	53



5/10/2013 8:36:33 AM

Facility = Motiva Enterprises - Fairfax 001

Chemical = Copper

Chronic averaging period = 4

WLAa = 22

WLAc =

Q.L. = 4.7

# samples/mo. = 1

# samples/wk. = 1

#### Summary of Statistics:

# observations = 11

Expected Value = 3.36860

Variance = 4.08509

C.V. = 0.6

97th percentile daily values = 8.19721

97th percentile 4 day average = 5.60464

97th percentile 30 day average = 4.06271

# < Q.L. = 9

Model used = BPJ Assumptions, Type 1 data

No Limit is required for this material

The data are:

0

0

0

0

0

0

0

6

0

10

0

5/10/2013 8:38:18 AM

Facility = Motiva Enterprises - Fairfax 001

Chemical = Zinc

Chronic averaging period = 4

WLAa = 100

WLAc =

Q.L. = 42

# samples/mo. = 1

# samples/wk. = 1

#### Summary of Statistics:

# observations = 10

Expected Value = 56.3662

Variance = 1143.77

C.V. = 0.6

97th percentile daily values = 137.162

97th percentile 4 day average = 93.7815

97th percentile 30 day average = 67.9806

# < Q.L. = 4

Model used = BPJ Assumptions, Type 1 data

A limit is needed based on Acute Toxicity

Maximum Daily Limit = 100

Average Weekly limit = 100

Average Monthly Limit = 100

The data are:

50

50

40

60

63.8

117

40

39

0

111

4/15/2013 11:24:29 AM

Facility = Motiva Enterprises - Fairfax 002

Chemical = Zinc

Chronic averaging period = 4

WLAa = 160

WLAc =

Q.L. = 65

# samples/mo. = 1

# samples/wk. = 1

#### Summary of Statistics:

# observations = 34

Expected Value =

Variance =

C.V. =

97th percentile daily values =

97th percentile 4 day average =

97th percentile 30 day average=

# < Q.L. = 34

Model used =

No Limit is required for this material

The data are:

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

7

4

6.4

10

3  
0  
5  
3  
5.5  
4.8  
5.9  
6.3  
4  
8.8

**BIOMONITORING RESULTS**  
**Motiva Enterprise Fairfax Terminal (VPDES VA0002283)**

Table 1  
Summary of Toxicity Test Results for Outfall 001

TEST DATE	TEST TYPE/ORGANISM	LC <sub>50</sub> (%)	NOAEC %	% SURV	TU <sub>x</sub>	LAB	REMARKS
<b>Permit reissued on April 16, 1998</b>							
06/17/98	Acute <i>C. dubia</i>	>100		100		EA	1 <sup>st</sup> annual
07/08/99	Acute <i>C. dubia</i>	>100		100		EA	2 <sup>nd</sup> annual
07/06/00	Acute <i>C. dubia</i>	>100		100		EA	3 <sup>rd</sup> annual
5/25/01	Acute <i>C. dubia</i>	>100		100		EA	4 <sup>th</sup> annual
05/23/02	Acute <i>C. dubia</i>	>100		100		EA	5 <sup>th</sup> annual
<b>Permit reissued on April 16, 2003</b>							
05/02/03	Acute <i>C. dubia</i>	>100	100	100	1	EA	1 <sup>st</sup> annual
08/03/04	Acute <i>C. dubia</i>	>100	100	95	1	EA	2 <sup>nd</sup> annual
11/30/05	Acute <i>C. dubia</i>	>100	100	100	1	EA	3 <sup>rd</sup> annual
02/08/07	Acute <i>C. dubia</i>	>100	100	100	1	EA	4 <sup>th</sup> annual
<b>Permit reissued on April 16, 2008</b>							
05/07/08	Acute <i>C. dubia</i>	>100	100	100	1	EA	Extra
07/28/09	Acute <i>C. dubia</i>	>100	100	100	1	EA	1 <sup>st</sup> annual
05/12/10	Acute <i>C. dubia</i>	>100	100	100	1	EA	2 <sup>nd</sup> annual
06/01/12	Acute <i>C. dubia</i>	>100	100	100	1	EA	3 <sup>rd</sup> annual
08/10/12	Acute <i>C. dubia</i>	>100	100	95	1	EA	4 <sup>th</sup> annual

FOOTNOTES: A **boldfaced** LC<sub>50</sub> or NOEC value indicates that the test failed the criteria or the WET limit.  
LC50 based on observation at the end of 48 hours.

ABBREVIATIONS: S – Survival; G – Growth; R – Reproduction  
% SURV – Percent survival in 100% effluent  
ESE – Environmental Science & Engineering, Incorporated  
EA – EA, Engineering, Science and Technology, Incorporated  
CBI – Coastal Bioanalysts, Incorporated

Table 2  
Summary of Toxicity Test Results for Outfall 002

TEST DATE	TEST TYPE/ ORGANISM	48-h LC <sub>50</sub> (%)	IC <sub>25</sub> (%)	NOEC (%)	% SURV	TU <sub>c</sub>	LAB	Remark
<b>Permit Reissued on April 16, 1998</b> <b>WET = 1.8 TU<sub>c</sub></b>								
9/24/98	Chronic <i>C. dubia</i>			Invalid			EA	
12/01/98	Chronic <i>C. dubia</i>			Invalid			EA	
02/02/99	Chronic <i>C. dubia</i>			100 SR	100	1	EA	
06/02/99	Chronic <i>C. dubia</i>			100 SR	100	1	EA	
09/27/99	Chronic <i>C. dubia</i>			100 SR	100	1	EA	
11/30/99	Chronic <i>C. dubia</i>			Invalid	100		EA	Control failed
12/16/99	Chronic <i>C. dubia</i>			100 SR	100	1	EA	
02/22/00	Chronic <i>C. dubia</i>			100 SR	100	1	EA	
05/18/00	Chronic <i>C. dubia</i>			78 SR	90	1.3	EA	
8/08/00	Chronic <i>C. dubia</i>			100 SR	100	1	EA	
11/14/00	Chronic <i>C. dubia</i>			100 SR	100	1	EA	
02/20/01	Chronic <i>C. dubia</i>	>100	>100	100 SR	89	1	EA	
05/22/01	Chronic <i>C. dubia</i>	>100	>100	100 SR	100	1	EA	
08/23/01	Chronic <i>C. dubia</i>	>100	83	100 S 56 R	80	1.79	EA	
11/27/01	Chronic <i>C. dubia</i>	>100	>100	100 SR	100	1	EA	
04/16/02	Chronic <i>C. dubia</i>	>100	>100	100 SR	90	1	CBI	
06/04/02	Chronic <i>C. dubia</i>	>100	>100	100 SR	80	1	CBI	
08/08/02	Chronic <i>C. dubia</i>	>100	>100	100 S 78 R	90	1.3	EA	
11/19/22	Chronic <i>C. dubia</i>	>100	>100	100 SR	100	1	EA	
02/20/03	Chronic <i>C. dubia</i>	>100	>100	100 SR	100	1	EA	
<b>Permit Reissued on April 16, 2003</b> <b>WET = 1.8 TU<sub>c</sub></b>								
05/29/03	Chronic <i>C. dubia</i>	>100	>100	100 SR	100	1	EA	1 <sup>st</sup> quarterly
08/21/03	Chronic <i>C. dubia</i>	>100	>100	100 S 78 R	100	1.3	EA	2 <sup>nd</sup> quarterly
11/18/03	Chronic <i>C. dubia</i>	>100	>100	100 SR	100	1	EA	3 <sup>rd</sup> quarterly
02/19/04	Chronic <i>C. dubia</i>	>100	>100	100 SR	100	1	EA	4 <sup>th</sup> quarterly
05/18/04	Chronic <i>C. dubia</i>	>100	>100	100 SR	90	1	EA	5 <sup>th</sup> quarterly
08/10/04	Chronic <i>C. dubia</i>	>100	>100	100 SR	100	1	EA	6 <sup>th</sup> quarterly
11/30/04	Chronic <i>C. dubia</i>	>100	>100	100 SR	100	1	EA	7 <sup>th</sup> quarterly
03/01/05	Chronic <i>C. dubia</i>	>100	>100	100 SR	100	1	EA	8 <sup>th</sup> quarterly
06/16/05	Chronic <i>C. dubia</i>	>100	>100	100 SR	100	1	EA	9 <sup>th</sup> quarterly
09/15/05	Chronic <i>C. dubia</i>	>100	>100	100 SR	100	1	EA	10 <sup>th</sup> quarterly
11/08/05	Chronic <i>C. dubia</i>			100 SR			EA	11 <sup>th</sup> quarterly
03/07/06	Chronic <i>C. dubia</i>			100 SR			EA	12 <sup>th</sup> quarterly
05/16/06	Chronic <i>C. dubia</i>			100 SR			EA	13 <sup>th</sup> quarterly
08/08/06	Chronic <i>C. dubia</i>			100 SR			EA	14 <sup>th</sup> quarterly
10/10/06	Chronic <i>C. dubia</i>			28			EA	15 <sup>th</sup> quarterly
03/20/07	Chronic <i>C. dubia</i>	>100	73.8	100 S 14 R	90	7.1	EA	16 <sup>th</sup> quarterly
06/19/07	Chronic <i>C. dubia</i>	>100	>100	100 S 78 R	100	1.3	EA	17 <sup>th</sup> quarterly
09/18/07	Chronic <i>C. dubia</i>	>100	>100	100 SR	100	1.0	EA	18 <sup>th</sup> quarterly
12/04/07	Chronic <i>C. dubia</i>	>100	>100	100 SR	100	1.0	EA	19 <sup>th</sup> quarterly

TEST DATE	TEST TYPE/ ORGANISM	48-h LC <sub>50</sub> (%)	IC <sub>25</sub> (%)	NOEC (%)	% SURV	TU <sub>c</sub>	LAB	Remark
<b>Permit Reissued 16 April 2008</b>								
05/13/08	Chronic <i>C. dubia</i>	>100	>100	100 SR	100	1.0	EA	1 <sup>st</sup> quarter
09/23/08	Chronic <i>C. dubia</i>	>100	>100	100 SR	100	1.0	EA	2 <sup>nd</sup> quarter
03/17/09	Chronic <i>C. dubia</i>	>100	>100	100 SR	100	1.0	EA	3 <sup>rd</sup> quarter
06/02/09	Chronic <i>C. dubia</i>	>100	>100	100 SR	100	1.0	EA	4 <sup>th</sup> quarter
09/29/09	Chronic <i>C. dubia</i>	>100	>100	100 SR	100	1.0	EA	5 <sup>th</sup> quarter
02/23/10	Chronic <i>C. dubia</i>	>100	>100	100 SR	90	1.0	EA	7 <sup>th</sup> quarter
08/21/10	Chronic <i>C. dubia</i>	>100	>100	100 SR	100	1.0	EA	8 <sup>th</sup> quarter
12/07/10	Chronic <i>C. dubia</i>	>100	>100	100 SR	100	1.0	EA	10 <sup>th</sup> quarter
03/10/11	Chronic <i>C. dubia</i>	>100	>100	100 SR	100	1.0	EA	11 <sup>th</sup> quarter
06/02/11	Chronic <i>C. dubia</i>	>100	>100	100 SR	100	1.0	EA	12 <sup>th</sup> quarter
09/29/11	Chronic <i>C. dubia</i>	>100	>100	100 SR	90	1.0	EA	13 <sup>th</sup> quarter INV – pMSD = 79%
10/27/11	Chronic <i>C. dubia</i>	>100	>100	100 SR	100	1.0	EA	Repeat for the 09/29/11 test
12/08/11	Chronic <i>C. dubia</i>	>100	>100	100 SR	100	1.0	EA	14 <sup>th</sup> quarter
02/21/12	Chronic <i>C. dubia</i>	>100	71.5	100 S 56 R	100	1.8	EA	15 <sup>th</sup> quarter
03/06/12	Chronic <i>C. dubia</i>	>100	>100	100 SR	80	1.8	EA	Second test – 15 <sup>th</sup>
05/08/12	Chronic <i>C. dubia</i>	>100	>100	100 SR	100	1.0	EA	16 <sup>th</sup> quarter

FOOTNOTES: A **boldfaced** LC<sub>50</sub> or NOEC value indicates that the test failed the criteria or the WET limit.  
LC50 based on observation at the end of 48 hours.

ABBREVIATIONS: S – Survival; G – Growth; R – Reproduction  
% SURV – Percent survival in 100% effluent  
INV – Invalid test  
ESE – Environmental Science & Engineering, Incorporated  
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Public Notice – Environmental Permit

PURPOSE OF NOTICE: To seek public comment on a draft permit from the Department of Environmental Quality that will allow the release of stormwater into a water body in Fairfax County, Virginia.

PUBLIC COMMENT PERIOD: TBD, 2013 to TBD, 2013

PERMIT NAME: Virginia Pollutant Discharge Elimination System Permit – Stormwater issued by DEQ, under the authority of the State Water Control Board

APPLICANT NAME, ADDRESS AND PERMIT NUMBER: Motiva Enterprises LLC – Fairfax Distribution Terminal  
3800 Pickett Road, Fairfax, VA 22031  
VA0002283

PROJECT DESCRIPTION: Motiva Enterprises LLC has applied for a reissuance of a permit for the private Fairfax Distribution Terminal. The applicant proposes to release stormwater at a rate of 0.048 million gallons per day into a water body. There is no sludge generated at this facility. The facility proposes to release the stormwater in the Crook Branch in Fairfax County in the Potomac River watershed. A watershed is the land area drained by a river and its incoming streams. The permit will limit the following pollutants to amounts that protect water quality: pH, total suspended solids, total petroleum hydrocarbons, benzene, ethylbenzene, toluene, xylene, naphthalene, zinc and whole effluent toxicity.

HOW TO COMMENT AND/OR REQUEST A PUBLIC HEARING: DEQ accepts comments and requests for public hearing by hand-delivery, email, fax or postal mail. All comments and requests must be in writing and be received by DEQ during the comment period. Submittals must include the names, mailing addresses and telephone numbers of the commenter/requester and of all persons represented by the commenter/requester. A request for public hearing must also include: 1) The reason why a public hearing is requested. 2) A brief, informal statement regarding the nature and extent of the interest of the requester or of those represented by the requester, including how and to what extent such interest would be directly and adversely affected by the permit. 3) Specific references, where possible, to terms and conditions of the permit with suggested revisions. A public hearing may be held, including another comment period, if public response is significant, based on individual requests for a public hearing, and there are substantial, disputed issues relevant to the permit.

CONTACT FOR PUBLIC COMMENTS, DOCUMENT REQUESTS AND ADDITIONAL INFORMATION: The public may review the draft permit and application at the DEQ-Northern Regional Office by appointment, or may request electronic copies of the draft permit and fact sheet.

Name: Douglas Frasier

Address: DEQ-Northern Regional Office, 13901 Crown Court, Woodbridge, VA 22193

Phone: (703) 583-3873 Email: Douglas.Frasier@deq.virginia.gov Fax: (703) 583-3821



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**State "Transmittal Checklist" to Assist in Targeting  
Municipal and Industrial Individual NPDES Draft Permits for Review**

**Part I. State Draft Permit Submission Checklist**

In accordance with the MOA established between the Commonwealth of Virginia and the United States Environmental Protection Agency, Region III, the Commonwealth submits the following draft National Pollutant Discharge Elimination System (NPDES) permit for Agency review and concurrence.

Facility Name:	Motiva Enterprises LLC – Fairfax Distribution Terminal
NPDES Permit Number:	VA0002283
Permit Writer Name:	Douglas Frasier
Date:	19 April 2013

Major [ ]

Minor [X]

Industrial [X]

Municipal [ ]

**I.A. Draft Permit Package Submittal Includes:**

	Yes	No	N/A
1. Permit Application?	X		
2. Complete Draft Permit (for renewal or first time permit – entire permit, including boilerplate information)?	X		
3. Copy of Public Notice?	X		
4. Complete Fact Sheet?	X		
5. A Priority Pollutant Screening to determine parameters of concern?			X
6. A Reasonable Potential analysis showing calculated WQBELs?	X		
7. Dissolved Oxygen calculations?			X
8. Whole Effluent Toxicity Test summary and analysis?	X		
9. Permit Rating Sheet for new or modified industrial facilities?	X		

**I.B. Permit/Facility Characteristics**

	Yes	No	N/A
1. Is this a new, or currently unpermitted facility?		X	
2. Are all permissible outfalls (including combined sewer overflow points, non-process water and storm water) from the facility properly identified and authorized in the permit?	X		
3. Does the fact sheet or permit contain a description of the wastewater treatment process?	X		
4. Does the review of PCS/DMR data for at least the last 3 years indicate significant non-compliance with the existing permit?		X	
5. Has there been any change in streamflow characteristics since the last permit was developed?		X	
6. Does the permit allow the discharge of new or increased loadings of any pollutants?		X	
7. Does the fact sheet or permit provide a description of the receiving water body(s) to which the facility discharges, including information on low/critical flow conditions and designated/existing uses?	X		
8. Does the facility discharge to a 303(d) listed water? <b>DOWNSTREAM</b>		X	
a. Has a TMDL been developed and approved by EPA for the impaired water? <b>DOWNSTREAM</b>	X		
b. Does the record indicate that the TMDL development is on the State priority list and will most likely be developed within the life of the permit? <b>DOWNSTREAM</b>		X	
c. Does the facility discharge a pollutant of concern identified in the TMDL or 303(d) listed water?		X	
9. Have any limits been removed, or are any limits less stringent, than those in the current permit?	X		
10. Does the permit authorize discharges of storm water?	X		

<b>I.B. Permit/Facility Characteristics – cont.</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
11. Has the facility substantially enlarged or altered its operation or substantially increased its flow or production?		X	
12. Are there any production-based, technology-based effluent limits in the permit?	X		
13. Do any water quality-based effluent limit calculations differ from the State's standard policies or procedures?		X	
14. Are any WQBELs based on an interpretation of narrative criteria?			X
15. Does the permit incorporate any variances or other exceptions to the State's standards or regulations?		X	
16. Does the permit contain a compliance schedule for any limit or condition?		X	
17. Is there a potential impact to endangered/threatened species or their habitat by the facility's discharge(s)?	X		
18. Have impacts from the discharge(s) at downstream potable water supplies been evaluated?	X		
19. Is there any indication that there is significant public interest in the permit action proposed for this facility?		X	
20. Have previous permit, application, and fact sheet been examined?	X		

**Part II. NPDES Draft Permit Checklist**

**Region III NPDES Permit Quality Review Checklist – For Non-Municipals**  
(To be completed and included in the record for all non-POTWs)

**II.A. Permit Cover Page/Administration**

	Yes	No	N/A
1. Does the fact sheet or permit describe the physical location of the facility, including latitude and longitude (not necessarily on permit cover page)?	X		
2. Does the permit contain specific authorization-to-discharge information (from where to where, by whom)?	X		

**II.B. Effluent Limits – General Elements**

	Yes	No	N/A
1. Does the fact sheet describe the basis of final limits in the permit (e.g., that a comparison of technology and water quality-based limits was performed, and the most stringent limit selected)?	X		
2. Does the fact sheet discuss whether “antibacksliding” provisions were met for any limits that are less stringent than those in the previous NPDES permit?	X		

**II.C. Technology-Based Effluent Limits (Effluent Guidelines & BPJ)**

	Yes	No	N/A
1. Is the facility subject to a national effluent limitations guideline (ELG)?		X	
a. If yes, does the record adequately document the categorization process, including an evaluation of whether the facility is a new source or an existing source?			X
b. If no, does the record indicate that a technology-based analysis based on Best Professional Judgement (BPJ) was used for all pollutants of concern discharged at treatable concentrations?	X		
2. For all limits developed based on BPJ, does the record indicate that the limits are consistent with the criteria established at 40 CFR 125.3(d)?	X		
3. Does the fact sheet adequately document the calculations used to develop both ELG and/or BPJ technology-based effluent limits?		X	
4. For all limits that are based on production or flow, does the record indicate that the calculations are based on a “reasonable measure of ACTUAL production” for the facility (not design)?			X
5. Does the permit contain “tiered” limits that reflect projected increases in production or flow?		X	
a. If yes, does the permit require the facility to notify the permitting authority when alternate levels of production or flow are attained?			X
6. Are technology-based permit limits expressed in appropriate units of measure (e.g., concentration, mass, SU)?	X		
7. Are all technology-based limits expressed in terms of both maximum daily, weekly average, and/or monthly average limits?		X	
8. Are any final limits less stringent than required by applicable effluent limitations guidelines or BPJ?		X	

**II.D. Water Quality-Based Effluent Limits**

	Yes	No	N/A
1. Does the permit include appropriate limitations consistent with 40 CFR 122.44(d) covering State narrative and numeric criteria for water quality?	X		
2. Does the record indicate that any WQBELs were derived from a completed and EPA approved TMDL?			X
3. Does the fact sheet provide effluent characteristics for each outfall?	X		
4. Does the fact sheet document that a “reasonable potential” evaluation was performed?	X		
a. If yes, does the fact sheet indicate that the “reasonable potential” evaluation was performed in accordance with the State’s approved procedures?	X		
b. Does the fact sheet describe the basis for allowing or disallowing in-stream dilution or a mixing zone?	X		

<b>II.D. Water Quality-Based Effluent Limits – cont.</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
c. Does the fact sheet present WLA calculation procedures for all pollutants that were found to have “reasonable potential”?		X	
d. Does the fact sheet indicate that the “reasonable potential” and WLA calculations accounted for contributions from upstream sources (i.e., do calculations include ambient/background concentrations where data are available)?			X
e. Does the permit contain numeric effluent limits for all pollutants for which “reasonable potential” was determined?	X		
5. Are all final WQBELs in the permit consistent with the justification and/or documentation provided in the fact sheet?	X		
6. For all final WQBELs, are BOTH long-term (e.g., average monthly) AND short-term (e.g., maximum daily, weekly average, instantaneous) effluent limits established?		X	
7. Are WQBELs expressed in the permit using appropriate units of measure (e.g., mass, concentration)?	X		
8. Does the fact sheet indicate that an “antidegradation” review was performed in accordance with the State’s approved antidegradation policy?	X		

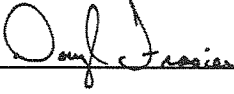
<b>II.E. Monitoring and Reporting Requirements</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
1. Does the permit require at least annual monitoring for all limited parameters?	X		
a. If no, does the fact sheet indicate that the facility applied for and was granted a monitoring waiver, AND, does the permit specifically incorporate this waiver?			
2. Does the permit identify the physical location where monitoring is to be performed for each outfall?		X	
3. Does the permit require testing for Whole Effluent Toxicity in accordance with the State’s standard practices?	X		

<b>II.F. Special Conditions</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
1. Does the permit require development and implementation of a Best Management Practices (BMP) plan or site-specific BMPs?	X		
a. If yes, does the permit adequately incorporate and require compliance with the BMPs?	X		
2. If the permit contains compliance schedule(s), are they consistent with statutory and regulatory deadlines and requirements?			X
3. Are other special conditions (e.g., ambient sampling, mixing studies, TIE/TRE, BMPs, special studies) consistent with CWA and NPDES regulations?			X

II.G. Standard Conditions		Yes	No	N/A
1. Does the <b>permit</b> contain all 40 CFR 122.41 standard conditions or the State equivalent (or more stringent) conditions?		X		
<b>List of Standard Conditions – 40 CFR 122.41</b>				
Duty to comply	Property rights	Reporting Requirements		
Duty to reapply	Duty to provide information	Planned change		
Need to halt or reduce activity not a defense	Inspections and entry	Anticipated noncompliance		
Duty to mitigate	Monitoring and records	Transfers		
Proper O & M	Signatory requirement	Monitoring reports		
Permit actions	Bypass	Compliance schedules		
	Upset	24-Hour reporting		
		Other non-compliance		
2. Does the permit contain the additional standard condition (or the State equivalent or more stringent conditions) for existing non-municipal dischargers regarding pollutant notification levels [40 CFR 122.42(a)]?		X		

### Part III. Signature Page

Based on a review of the data and other information submitted by the permit applicant, and the draft permit and other administrative records generated by the Department/Division and/or made available to the Department/Division, the information provided on this checklist is accurate and complete, to the best of my knowledge.

Name	<u>Douglas Frasier</u>
Title	<u>VPDES Permit Writer, Senior II</u>
Signature	<u></u>
Date	<u>19 April 2013</u>